2004-06

The influences of physical attractiveness and sex-based biases on midshipman performance evaluations at the United States Naval Academy

NAVAL POSTGRADUATE SCHOOL

MONTEREY, CALIFORNIA

THESIS

THE INFLUENCES OF PHYSICAL ATTRACTIVENESS AND SEX-BASED BIASES ON MIDSHIPMAN PERFORMANCE EVALUATIONS AT THE UNITED STATES NAVAL ACADEMY

by

Mario N. Wilson

June 2004

Thesis Co-Advisors: Janice H. Laurence
Armando X. Estrada

Approved for public release; distribution is unlimited.

THIS PAGE INTENTIONALLY LEFT BLANK

REPORT DOCUMENTATION PAGE			Form Approved OMB No. 0704-0188
Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instruction, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188) Washington DC 20503.			
1. AGENCY USE ONLY *(Leave blank)*	**2. REPORT DATE** June 2004	**3. REPORT TYPE AND DATES COVERED** Master's Thesis	
4. TITLE AND SUBTITLE: The Influences of Physical Attractiveness and Sex-based Biases on Midshipman Performance Evaluations at the United States Naval Academy			**5. FUNDING NUMBERS**
6. AUTHOR(S) Wilson, Mario N.			
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Naval Postgraduate School Monterey, CA 93943-5000			**8. PERFORMING ORGANIZATION REPORT NUMBER**
9. SPONSORING /MONITORING AGENCY NAME(S) AND ADDRESS(ES) N/A			**10. SPONSORING/MONITORING AGENCY REPORT NUMBER**
11. SUPPLEMENTARY NOTES The views expressed in this thesis are those of the author and do not reflect the official policy or position of the Department of Defense or the U.S. Government.			
12a. DISTRIBUTION / AVAILABILITY STATEMENT Approved for public release; distribution is unlimited.			**12b. DISTRIBUTION CODE**

13. ABSTRACT (maximum 200 words)

The purpose of this study was to evaluate the impacts of physical attractiveness and sex on periodic midshipman performance evaluations at the United States Naval Academy. An experiment was conducted in which 138 senior-ranking male midshipmen participated. Each was provided an identical performance summary report along with one of four Naval Academy yearbook photographs then asked to evaluate the midshipman in the photograph using only the information provided. The target midshipman was presented as either an attractive or unattractive male or female sophomore-level midshipman who demonstrated an average level of performance. The significant finding was that physical attractiveness and sex did influence evaluation scores. The attractive midshipmen received higher overall evaluation scores than the unattractive midshipmen, and the attractive female midshipman received the highest overall evaluation scores. The purpose of this study was to increase awareness of physical attractiveness and sex biases and their negative impacts on performance evaluations. This study also aimed to make training recommendations and suggestions for further research on this topic that will benefit the United States Naval Academy.

14. SUBJECT TERMS United States Naval Academy, Gender Bias, Sex Bias, Physical Attractiveness, Performance Evaluation, Midshipman			**15. NUMBER OF PAGES** 113
			16. PRICE CODE
17. SECURITY CLASSIFICATION OF REPORT Unclassified	**18. SECURITY CLASSIFICATION OF THIS PAGE** Unclassified	**19. SECURITY CLASSIFICATION OF ABSTRACT** Unclassified	**20. LIMITATION OF ABSTRACT** UL

NSN 7540-01-280-5500 Standard Form 298 (Rev. 2-89)
Prescribed by ANSI Std. 239-18

THIS PAGE INTENTIONALLY LEFT BLANK

Approved for public release; distribution is unlimited.

THE INFLUENCES OF PHYSICAL ATTRACTIVENESS AND SEX-BASED BIASES ON MIDSHIPMAN PERFORMANCE EVALUATIONS AT THE UNITED STATES NAVAL ACADEMY

Mario N. Wilson
Lieutenant, United States Navy
B.S., United States Naval Academy, 1996

Submitted in partial fulfillment of the
requirements for the degree of

MASTER OF SCIENCE
IN
LEADERSHIP AND HUMAN RESOURCE DEVELOPMENT

from the

NAVAL POSTGRADUATE SCHOOL
June 2004

Author: Mario N. Wilson

Approved by: Janice H. Laurence, Ph.D.
Thesis Co-Advisor

Armando X. Estrada, Ph.D.
Thesis Co-Advisor

Douglas A. Brook, Ph.D.
Dean, Graduate School of Business and Public Policy

THIS PAGE INTENTIONALLY LEFT BLANK

ABSTRACT

The purpose of this study was to evaluate the impacts of physical attractiveness and sex on periodic midshipman performance evaluations at the United States Naval Academy. An experiment was conducted in which 138 senior-ranking male midshipmen participated. Each was provided an identical performance summary report along with one of four Naval Academy yearbook photographs then asked to evaluate the midshipman in the photograph using only the information provided. The target midshipman was presented as either an attractive or unattractive male or female sophomore-level midshipman who demonstrated an average level of performance. The significant finding was that physical attractiveness and sex did influence evaluation scores. The attractive midshipmen received higher overall evaluation scores than the unattractive midshipmen, and the attractive female midshipman received the highest overall evaluation scores. The purpose of this study was to increase awareness of physical attractiveness and sex biases and their negative impacts on performance evaluations. This study also aimed to make training recommendations and suggestions for further research on this topic that will benefit the United States Naval Academy.

THIS PAGE INTENTIONALLY LEFT BLANK

TABLE OF CONTENTS

THIS PAGE INTENTIONALLY LEFT BLANK

LIST OF FIGURES

LIST OF TABLES

ACKNOWLEDGMENTS

I would like to thank those who dedicated tremendous amounts of time and effort in assisting me in the completion of this thesis. First, I extend my sincere gratitude to Dr. Janice Laurence and Dr. Armando Estrada for their inspiration, wisdom, and patience. Their contributions were essential to the quality, professionalism, and overall success of this study. Second, I extend my deepest appreciation to the Naval Academy Leadership Ethics and Law (LEL) Department for allowing me to use valuable class time in order to conduct this study. I would also like to thank my fellow classmates for inspiring me to pursue this topic and continuously motivating me to complete this study regardless of the many challenges. Finally, and most importantly, I would like to thank my loving wife, Monica, and daughter Hailey. Their continuous words of encouragement, support, and understanding were invaluable and enabled me to complete this valuable thesis.

THIS PAGE INTENTIONALLY LEFT BLANK

I. INTRODUCTION

A. BACKGROUND

Midshipmen labor diligently in order to fulfill the rigorous academic and military requirements placed upon them at the United States Naval Academy. The performance of each midshipman is periodically evaluated by midshipman leaders and recorded in the form of a Midshipman Evaluation Report, a form that allows the midshipman to be graded in seven different performance categories. Ideally, each midshipman receives performance scores that are reflective of his or her actual performance.

Research suggests that gender and physical attractiveness influence evaluations (Biernat, 2001; Drogosz, 1996). Indeed, studies show that physical attractiveness and gender (or sex) can influence evaluations in a wide variety of contexts including both American and foreign corporations, universities, and the U. S. military. However, none of these studies have explored the possibility that such biases are present within the U. S. military academies. This research explores whether sex-based and attractiveness-based biases exist among the midshipman leadership at the United States Naval Academy. Specifically, it examines whether gender (or sex) and perceived physical attractiveness influence midshipman performance evaluation scores at the United States Naval Academy.

B. PURPOSE

This study will provide information of educational value to the United States Naval Academy concerning the presence of sex-based and attractiveness-based biases. It will determine if such biases exist within the Naval Academy and evaluate their possible influences on periodic midshipman performance evaluations. In addition, this study will discuss the possible impacts that may result from such influential biases and make training recommendations to educate Naval Academy midshipman, faculty, and staff.

C. RESEARCH QUESTIONS

This research paper statistically examines experimental performance data to determine whether they support the null hypotheses that there is no inconsistency in performance scores between male and female midshipmen and between attractive and unattractive midshipmen. The specific questions addressed are:

1. Are midshipmen who are perceived as physically attractive evaluated differently than midshipmen who are perceived as physically unattractive?

2. Do male midshipman raters evaluate female midshipmen differently than male midshipmen?

D. SCOPE AND LIMITATIONS

This study examines the relationships between numerous variables in order to determine whether attractiveness and sex-based biases exist at the Naval Academy. Only a portion of the Naval Academy's performance evaluation system (the Midshipman Aptitude Evaluation and Counseling System) was used during the study. Specifically, the Evaluation Report and Counseling Record form is utilized because of its ability to quantify the performance evaluation received by a midshipman. Other existing evaluation methods such as peer-rankings are not used.

An additional limitation of this study is the fact that only midshipman data are obtained and examined. Although a select number of Naval Academy staff members have some input regarding the final performance scores provided to the midshipmen on the evaluation reports, no data are collected concerning the scoring tendencies of Naval Academy staff members. This study focuses strictly on the presence and influences of biases amongst the midshipman leadership.

The scope includes: (1) a review of past research on gender and sex-based bias, (2) a review of past research on physical attractiveness, (3) a review of the Midshipman Aptitude Evaluation System, (4) an in-depth analysis of performance evaluation scores as they relate to perceived physical attractiveness, and (5) an in-depth analysis of performance evaluation scores as they relate to midshipman sex. The intent of this thesis

is to determine which evaluated performance aspects are influenced, if at all, by the attractiveness and sex of the midshipman being evaluated.

The design uses data collected from Naval Academy midshipmen from the classes of 2004, 2005, and 2007. These data sets contain information pertaining to what a midshipman perceives as attractive and how midshipmen evaluate other midshipmen performance when given only a limited amount of information.

E. ORGANIZATION OF STUDY

This study is divided into five chapters. Chapter I is an overview of the study. Chapter II discusses numerous theories and studies related to gender and sex-based bias, attractiveness bias, and the instruction concerning the Midshipman Aptitude Evaluation System. Chapter III contains an explanation of the methodology and a description of the variables examined in the study. Chapter IV reviews the results of each analysis performed. Chapter V summarizes the results of the study, provides research discussion and conclusions, and lists recommendations for training and further research.

THIS PAGE INTENTIONALLY LEFT BLANK

II. LITERATURE REVIEW

A. INTRODUCTION

This chapter contains four major sections. The first section provides a review of past research on gender and sex-based bias, physical attractiveness, and job-related performance. The second section provides a basic overview of the Naval Academy's Aptitude Evaluation System. The third section discusses the educational material presented to Naval Academy midshipmen concerning appearance, perception, and bias. The fourth section explains the Naval Academy's four-class rank system. The final section summarizes the chapter.

B. SEX / GENDER, PHYSICAL ATTRACTIVENESS, AND JOB-RELATED PERFORMANCE

1. Sex / Gender and Job-Related Performance

Research suggests that men and women are routinely treated differently as a result of stereotypes and biases. Gender stereotypes have caused men and women to be judged relative to sex-specific standards instead of actual performance and potential (Biernat & Fuegen, 2001). As a result, men often receive different forms of treatment than women in several different arenas.

Sex-role stereotypes refer to generally held beliefs about the traits and abilities possessed by men and women (Schein as cited in Hartman, 1988). Sex-role stereotypes also contain beliefs concerning what tasks men and women are capable of accomplishing and whether certain tasks are even appropriate for a man or woman to undertake (Hartman, 1988). Studies have found that a typical woman is seen as warm, gentle, kind, and passive, whereas a typical man is viewed as tough, aggressive, and assertive (Huddy & Terkildsen, 1993). Such stereotypes have been found to exist across "a diverse array of nations" (Best & Williams as cited in Huddy & Terkildsen, 1993).

In the past, research found that both men and women shared these gender-linked stereotypes. Women viewed good performance as more masculine than men and viewed poor performance as more feminine than men. As a result, women applied gender-linked

stereotypes in more extreme forms than men (Hartman, 1988). However, recent studies suggest that traditional views and gender stereotypes may be altering (Foddy & Smithson, 1999; Roder et al., 2001). While the male stereotypes have remained relatively invariant over the past decades, female stereotypes have changed considerably (Roder et al., 2001). Such is suggested to be the result of the decreasing gap between the roles of men and women and the highly dynamic changes in beliefs concerning women (Diekman & Eagly, 1999; Roder et al., 2001). Recent studies have also found that an increasing number of women assess themselves as possessing masculine-stereotyped traits, whereas men show no changes in self-assessed possession of feminine-stereotyped traits (Twenge as cited in Sczesny, 2003).

As the workforce grows more gender diverse, more studies have examined the influences of stereotypes on competence assessments. Research has found dramatic differences between competence assessments of men and competence assessments of women. In U. S. culture, men possess higher levels of expert and legitimate power than women (Carli, 1999). Therefore, a general belief exists that men are more competent than women (Carli, 1999). Assessment studies show that men are usually perceived as more independent, masterful, assertive, and instrumentally competent than women (Biernat & Fuegen, 2001; Harrison & Rainer, 1988). Men are also perceived to be more capable of successfully completing small tasks than women (Balkwell et. al. as cited in Biernat & Fuegen, 2001). Traits attributed to women are primarily affective characteristics such as friendliness, unselfishness, warmth, expressiveness, and concern for others (Boyce & Herd, 2003; Harrison & Rainer, 1988). Studies have shown that even when people acknowledge that a woman is highly competent, they may still react negatively to her (Carli, 1999). "Competent, self-promoting women risk being disliked and rejected, especially by men" (Carli, 1999).

Researchers have also continued to examine the influences of stereotypes in specific professional arenas, particularly the hiring, evaluating, and promoting aspects. As a result, researchers have found dramatic differences in the professional progression of men and women. Evidence exists that the hiring, evaluating and promoting processes are significantly different for men than for women, differing on the basis of the sex of the hirer and the sex of the person seeking employment (Biernat & Fuegen, 2001). Research

has found that lower employment screening (or qualification) standards exist for women than for men (Biernat & Fuegen, 2001). However, higher confirmatory standards exist for women (Biernat & Fuegen, 2001; Carli, 1999). In other words, it is easier for women to be hired, but it is more difficult for them to be promoted. The higher confirmatory standards have resulted in the statistic that women are more likely to be employed at lower levels and receive lower wages in many jobs (Harrison & Rainer, 1997). Such findings add creditability to the adage that women have to "work twice as hard to be perceived as half as good" as men (Biernat & Fuegen, 2001; Carli, 1999; Carter as cited in Biernat & Fuegen, 2001).

The sex of the hirer is the major contributing factor in hiring disparities. Men tend to show a pro-female bias when hiring, whereas women tend to show an anti-female bias, especially when the person seeking employment is an assertive woman (Biernat & Fuegen, 2001). Several theories attempt to explain this phenomenon. One theory is labeled the "Queen Bee Syndrome," which suggests that successful women may tend to view other women as intruders or competitors (Staines et al as cited in Biernat & Fuegen, 2001). A second theory suggests that women believe that their own credibility will be questioned if they fail to judge other women harshly: If an unqualified woman gets ahead, it may reflect badly on all women (Broder as cited in Biernat & Fuegen, 2001). A third theory suggests that women hold other women to higher standards because they know that exceptional performance is required in order to succeed (Biernat & Fuegen, 2001). One last theory is that both men and women attempt to appear as nonsexist when hiring (Biernat & Fuegen, 2001). As a result, women tend to under hire female applicants, and men tend to over hire female applicants (Biernat & Fuegen, 2001).

The decline of gender barriers and the increasing number of women in leadership positions have given rise to women's hopes that stereotypes of leaders will change (Roder et al., 2001). Despite the improvements in gender equality, research shows that gender stereotypes still influence assessments of leadership skills and potential (Biernat & Fuegen, 2001; Sczesny, 2003), and a general belief still exists that men have a greater right to authority and leadership (Carli, 1999). As a result, "female leaders are evaluated more harshly when they exhibit a more directive style of leadership whereas male leaders have a greater latitude to use a variety of leadership styles" (Carli, 1999).

Indeed, researchers have identified perceivers' gender as a moderating variable in the evaluation of leadership abilities possessed by both men and women (Sczesny, 2003). Research conducted on a college campus revealed that male students are more likely than female students to have negative views of female managers (Deal & Stevenson as cited in Sczesny, 2003). Specifically, male students are less likely than female students "to describe female managers as ambitious, competent, intelligent, objective, and well-informed and more likely to describe them as easily influenced, uncertain, nervous, passive, and having a strong need for social acceptance (Sczesny, 2003).

Recent research also reaffirms the stereotype of leadership as a masculine trait, causing women to continue to be viewed less often as leaders (Hogue et al., 2002). As a result of this stereotype, many women leaders tend to employ leadership styles similar to those utilized by men (Eagly & Johnson as cited in Hogue et al., 2002). This stereotype also causes people to rely heavily on a woman's competence when determining whether she is qualified to be a leader (Hogue et al., 2002). Previous research suggested that competence was not sufficient for a woman to be an effective leader (Carli et al. as cited in Hogue et al., 2002). However, recent research suggests that while ability is not sufficient, an understanding of a woman leader's competence is necessary (Hogue et al., 2002). Therefore, people will not readily accept a woman leader unless information regarding her competence is brought to their attention (Hogue et al., 2002). As a result, when appointing a woman to a position of authority, organizations "benefit by having a legitimate organizational authority assign her to the position while, at the same time, expressing the organization's esteem for her qualifications" (Hogue et al., 2002).

Despite the existence of such stereotypes, a recent study conducted by Alice Eagly, Mary Johannesen-Schmidt, and Marloes van Engen (2003) revealed that little difference exists between the management styles of men and women. However, the study did reveal that women are more likely to exercise transformational leadership, which has been proven as very effective in the work environment (Do Women, 2003; Eagly et al., 2003). The study also revealed that women are more likely to reward good performance, which is a positive aspect of transactional leadership (Do Women, 2003; Eagly et al., 2003). In contrast, the study found that men were slightly more likely than women to point out their subordinates' failures, which is a negative aspect of

transactional leadership (Do Women, 2003; Eagly et al., 2003). Additionally, men were found to be more likely to function as laissez-faire leaders (Eagly et al., 2003).

Usually, both an objective and a subjective evaluation are used in order to evaluate a person's professional performance and potential. The extremely subjective nature of many performance evaluations contributes greatly to the prevalence of the unequal performance standards for men and women (Biernat & Fuegen, 2001). Subjective evaluations enable raters to conceal their stereotyped perceptions, whereas objective evaluations do not. Research has found that although a man and a woman may both be labeled as "very good" performers in a subjective evaluation, the man will routinely be ranked higher than the woman on the objective evaluation (Biernat & Fuegen, 2001). In other words, a "good" male is perceived to be a better performer and possess more leadership skills than a "good" female. Not only are men regularly assessed as possessing better leadership skills than women, but they are also given more promotions and leadership opportunities (Biernat & Fuegen, 2001; Harrison & Rainer, 1997).

2. Physical Attractiveness and Job-Related Performance

Physical attractiveness plays a significant role in many areas of everyday life whether people realize it or not. The mentality that "what is beautiful is good" permeates societies around the globe, creating a "premium to beauty" in everyday transactions (Dion et al as cited in Chung & Leung, 1988; Fink & Penton-Voak, 2002; Mulford, 1998). Attractive people are credited with a wide range of positive attributions, being perceived as favorable, successful, assertive, happier, and possessing a greater likelihood for marital success (Chung & Leung, 1988; Mulford, 1998; Ponzo, 1985a). Although different levels of attractiveness elicit different social perceptions, exchanges, and behaviors, research shows that attractive people are usually associated with positivity, whereas unattractive people are usually associated with negativity (Brown, 1986; Miller as cited in Ponzo, 1985a). Society has greatly disadvantaged those who lack a physically attractive exterior, from early childhood throughout life (Hollingsworth, 1985).

Studies have attempted to identify the key feature(s) that define or contribute to physical attractiveness. They have even studied the relationship between attractiveness

and symmetry (Fink & Penton-Voak, 2002). Some studies have found a strong relationship between facial attractiveness ratings and facial symmetry (Fink & Penton-Voak, 2002). However, other studies have found the same relationship between facial attractiveness ratings and symmetry even when symmetry cues were completely removed, such as presenting only the left or right half of the face (Scheib et. al. as cited in Fink & Penton-Voak, 2002). These results suggest that criteria other than symmetry can and possibly are used when determining whether someone is physically attractive.

A person's physical appearance is one of the first cues people use in determining the sex of a person (Brown, 1986). Literature confirms the existence of the "what-is-beautiful-is-sex-typed" phenomenon, which is the notion that physical attractiveness conveys sex-role appropriateness, particularly for females (Brown, 1986). Attractive females are usually perceived as more feminine, while attractive males are usually perceived as more masculine (Brown, 1986).

The determinants of physical attractiveness can be divided into two categories: static and fluctuating. Static determinants are "stable, enduring physical characteristics" and fluctuating determinants are characteristics that are capable of being changed repeatedly, such as facial expressions, hair styles, attire, or cosmetics (Bardack & McAndrew, 1985; Brown, 1986). In a study conducted by Graham and Jouhar, findings showed that "the manipulation of facial cosmetics and hair grooming in women of average attractiveness significantly improved initial evaluations of them" by both males and females (Graham & Jouhar as cited in Brown, 1986).

Researchers have predominantly relied on the use of yearbook photos in studies relating to physical attractiveness, treating facial attractiveness as the primary predictor of overall attractiveness (Brown, 1986; Cash as cited in Brown, 1986). Recently, other researchers have challenged this notion and suggested that body attractiveness also plays a significant role in the determination of a person's level of attractiveness. However, the results of one such challenge discovered that while attractiveness is determined by both facial and bodily attractiveness, neither is a more powerful determinant (Brown, 1986). Therefore, still photos are reliable for determining a person's level of attractiveness (Brown, 1986).

The facial expression is one of the most significant predictors of attractiveness present in a photograph. Studies have found that sad faces are judged as less attractive than neutral or happy faces (Mueser et al. as cited in Brown, 1986). Studies have also found that smiling faces are judged as less dominant and less masculine than when they are not smiling (Keating et al. as cited in Mazur, 1984).

Judgments of physical attractiveness must be viewed as subjective, not objective (Kowner, 1995). In addition to physical factors, which are relatively stable, other factors such as social factors (status symbols and clothes), cultural factors (fashion), and cognitive factors (stereotypes) are normally taken into consideration when determining a person's level of attractiveness (Kowner & Ogawa as cited in Kowner, 1995). Although these factors are interpreted and evaluated differently among individuals and cultures, the local and prevailing social norms become the standard by which a person's attractiveness is measured (Kowner, 1995). Despite the individual differences regarding judgments of attractiveness, adults' ratings of facial attractiveness are mostly consistent across studies and cultures (Fink & Penton-Voak, 2002).

Some have suggested that the overemphasis of attractiveness in "everyday exchanges" reflects a peculiar Western "culture of beauty" that has been "fueled by the capacity of the media to surround [Western societies] with images of flawless (particularly female) beauty (Wolf as cited in Mulford, 1998; Mulford, 1998). Others propose that the "positive response to attractiveness might be an evolved product from our ancestral past" (Buss et al. as cited in Mulford, 1998). Regardless of the origins, physical attractiveness does have a profound effect within society. Individuals tend to assume that attractive people have ideal personalities and are happier and more successful than unattractive people (Mazur, 1984). Likewise, people associate desirable traits (dominance, manliness, and particularly leadership) with males who are tall, handsome and well built (Gacsaly & Borges as cited in Mazur, 1984; Mazur, 1984). As a result, people routinely act upon these stereotypes and place such people in leadership roles. Indeed, when a man possesses these characteristics, he will usually try to act as the leader, even when he has not been appointed as such (Mazur & Robertson as cited in Mazur, 1984).

Heilman's Lack of Fit Model states that "occupational sex bias is a result of an incongruity between one's perceived skills and attributes, which are associated with gender, and the perceived nature of the job's requirements" (Heilman & Saruwatari as cited in Drogosz & Levy, 1996). The Lack of Fit Model was originally proposed to explain female-gender bias in work settings, but recently it has also been used to analyze the effects of attractiveness (Drogosz & Levy, 1996). Attractiveness has been found to enhance gender characteristics and exaggerate the perceptions of gender-related attributes (Heilman et al. as cited in Drogosz & Levy, 1996). According to the Lack of Fit Model, "an attractive woman in a job perceived to require traditionally masculine characteristics, such as a managerial job, is expected to fail because of the poor perceived fit between the male-typed job and the attractive woman's characteristics" (Drogosz & Levy, 1996).

Early research using the model discovered that attractiveness bias was not equally advantageous for both men and women. Attractiveness was found to function as a liability for women seeking entrance into a male-dominated profession (Heilman et. al. as cited in Drogosz & Levy, 1996). Therefore, unattractive women seemed to have an advantage over attractive women in male-typed jobs. Unattractive women were not only perceived as more qualified for such jobs, but they were also hired and recommended for raises more frequently (Heilman & Saruwatari as cited in Drogosz & Levy, 1996). These actions were justified by people's perceptions that their (the unattractive people) success was attributed to their ability (Heilman & Stopeck as cited in Drogosz & Levy, 1996).

In contrast, attractive women seemed to have an advantage over both men and unattractive women in female-typed jobs. Attractive women were given higher ratings, deemed more deserving of promotions and pay raises, and seen as more successful (Heilman & Saruwatari as cited in Drogosz & Levy, 1996; Heilman & Stopeck as cited in Drogosz & Levy, 1996).

Attractive men are not affected by the Lack of Fit model because they are always perceived as potentially successful in a job regardless of whether it was a male-typed job or female-typed job (Drogosz & Levy, 1996). Likewise, attractive men are given higher evaluation ratings regardless of their qualifications (Drogosz & Levy, 1996). Therefore,

"men have little to lose and much to gain by being attractive" (Heilman & Stopeck as cited in Drogosz & Levy, 1996).

Research findings have started to show behavioral shifts as more women enter the work force and jobs that were once available only to men. A most recent study has discovered that attractive people now seem to be rated more favorably regardless of gender or job type (Drogosz & Levy, 1996). In other words, sex/gender now plays a decreased role in evaluations, but attractiveness still has a major influence.

Nearly all studies that have been conducted concerning the influences of physical attractiveness have found attractiveness to be associated with perceived ability, or competence. Past research found that handsome men were perceived to be more intelligent than unattractive men, whereas beautiful women were perceived to be less intelligent than unattractive women (Cash & Duncan as cited in Copolla, 2003). However, recent research has found that both attractive men and attractive women benefit from the influences of attractiveness (Jackson, 1995). These influences have been found to be stronger on perceptions regarding competence and likeability when the person is a mediocre performer or when explicit information about the person's competence is absent (Chung & Leung, 1988; Jackson, 1995). These influences have also been found to be stronger on perceptions regarding males' intellectual competence than females' in the occupational domain (Jackson, 1995). However, the opposite effect has been found regarding the social domain, with females being perceived as more intellectually competent in a social environment (Feingold as cited in Jackson, 1995). This effect is suggested to be the result of the higher status of the male in the American culture (Jackson, 1995).

Research has also found evidence that authority figures possess a strong bias in favor of attractiveness when judging professional potential and deciding promotions and rewards (Heilman & Stopeck as cited in Drogosz & Levy, 1996). Studies suggest that the influences of attractiveness are stronger when a person's performance and ability are mediocre or inadequate (Chung & Leung, 1988; Jackson, 1995). These studies are supported by findings that attractive, but unqualified applicants are routinely hired and even given higher salaries more frequently than unattractive applicants (Dipboye et al. as

cited in Chung & Leung, 1988; Drogosz & Levy, 1996). Recent surveys found that more than 80 percent of employees perceive appearance as important to career advancement (Mulford et al. as cited in Coppola & Patel, 2003; Perlini et al. as cited in Coppola & Patel, 2003). These findings have occurred around the world, suggesting that these perceptions and influences are globally existent and are not limited to the United States (Chung & Leung, 1988).

Because physically attractive people are commonly perceived to possess more desirable personal characteristics and be more motivated, intelligent, and qualified overall, the political arena is especially susceptive to these influences (Coppola & Patel, 2003; Drogosz & Levy, 1996). However, the effects are not equally advantageous for both men and women politicians. Statistics show that attractive male politicians usually receive more votes, but attractive female politicians usually receive fewer votes (Sigelman et al as cited in Coppola & Patel, 2003). Nevertheless, attractiveness does seem to play an important role in politics.

The American military is one of the many institutions in which career advancement should be determined chiefly by performance of tasks that are relevant to organizational goals, however, physical attractiveness has been found to be an influential factor at military promotion boards (Coppola & Patel, 2003; Mazur, 1984). At U.S. Army promotion boards, the member's photograph is often the first thing seen by the promotion board, and as a result, it is often referred to as "the officer's introduction or calling card to the board" (Coppola & Patel, 2003). Although board members are instructed to consider the member's record based on a plethora of professional items (potential, record of performance, integrity, character, attitude, dedication, professionalism, and ethics), the member's physical attractiveness is a contributing factor in the promotion board's decision (Coppola & Patel, 2003). Lieutenant Colonel Coppola conducted a study involving numerous mock Army promotion boards, which revealed that bad promotion board photos (poor facial expression, poor grooming, and poor uniform appearance) decreased a member's chances of getting promoted, regardless of his or her performance (Coppola & Patel, 2003).

Although people are judged on their appearance everyday, their first impression usually predicts their final or lasting impression (Coppola & Patel, 2003). Perceived feedback during the first social encounters plays a vitally important role in social interaction (Kowner, 1995). During initial meetings, people tend to instantaneously and almost unconsciously compare other's attributes with their own (Kowner, 1995). One of the primary dimensions of the comparison aspect of social interaction is perceived physical attractiveness (Kowner, 1995). Social perceptions, exchanges, and behaviors seem to favor the attractive, enabling attractive people to fare better in interpersonal and review situations (Brown, 1986; Hall & Berneiri as cited in Coppola & Patel, 2003). Studies have found that a man who is associated with an attractive woman makes a better impression on observers than a man who is associated with an unattractive woman (Sigall & Landy as cited in Kowner, 1995). People desire to interact with people they view as attractive, and they are usually willing to do so even if it comes at some expected cost (Mulford, 1998). Even after blind dates, physically attractive men and women are more liked, desired, and requested for second dates (Walster et al. as cited in Ponzo, 1985a).

Perceived attractiveness influences both affiliation tendencies and cooperativeness. People with similar levels of physical attractiveness tend to affiliate with each other (Cash & Derlega as cited in Kowner, 1995). However, if a person receives feedback (from peers or self) suggesting that his or her level of attractiveness has changed, then that person will change his or her affiliation tendencies (Kowner, 1995). Meaning, if a woman feels that she no longer appears very attractive then she will stop affiliating with very attractive peers, and instead affiliate with others who are less attractive.

Research shows that men who view themselves as very attractive tend to be more cooperative than other men, but women who view themselves as very attractive tend to be less cooperative than other women (Mulford, 1998). Nevertheless, attractive people (men and women) appear to be more cooperative with other attractive people than with unattractive people (Mulford, 1998). Despite these findings, people still believe that attractive people (men and women) are more cooperative overall than unattractive people (Mulford, 1998).

Physical attractiveness has also been discovered to affect decision making tendencies. A study conducted at McMaster University showed that perceived attractiveness can have a significant effect on decision making tendencies. Researchers Wilson and Daly (2003) found that male students made irrational decisions soon after being shown pictures of very attractive women, whereas other male students made rational decisions after being shown pictures of averagely attractive women (Pretty, 2003). During the study, women were found to make equally rational and irrational decisions regardless of whether they were shown pictures of very attractive or averagely attractive men (Pretty, 2003).

Other studies have shown that the act of viewing someone who is perceived as attractive can activate brain regions that are strongly linked to reward. Heightened activity in this section of the brain seems to cause men to be more willing to take risks, and thus make irrational decisions (Kampe et al. as cited in Fink & Penton-Voak, 2002; Pretty, 2003).

Even legal-related decisions are often affected by physical attractiveness. Although many believe that "justice is blind," studies have shown that justice is not blind to physical attractiveness or immune to its powerful influences (Stewart, 1985). Not only are fewer attractive people accused of serious crimes but attractive people are treated more leniently during sentencing (Stewart, 1985). Jurors have been found to recommend less severe punishments for defendants who were perceived as attractive and appeared clean, neat, and well-dressed (Stewart, 1985). This phenomenon, known as the Attraction-Leniency Effect, has been found to effect sentencing but not the conviction-acquittal decision (Stewart, 1985).

C. THE MIDSHIPMAN APTITUDE EVALUATION AND COUNSELING SYSTEM

1. History

In 1990, the U. S. Navy issued Article 1129, which required that "records be maintained on naval personnel 'which reflect their fitness for the service and performance of duties'" (Commandant of Midshipmen, 2003). This article applied to fleet personnel

as well as midshipmen attending the U. S. Naval Academy. Therefore, the Naval Academy instituted a policy that all first-class and second-class midshipmen be evaluated using the Navy's fitness report (FITREP) and that all third-class and fourth-class midshipmen be evaluated using the Navy's evaluation form (EVAL) (Commandant of Midshipmen, 2003).

2. Objectives

The primary instruction that promulgates the Naval Academy's performance evaluation system is the Commandant of Midshipmen Instruction 1610.3B. This instruction states that the FITREP or EVAL should reflect, and be consistent with, the academic semester-long process of counseling, which should cover all seven performance aspects of the FITREP or EVAL, rank amongst peers, goal accomplishments, strengths and weaknesses, and recommendations for improvement (Commandant of Midshipmen, 2003). Overall, the performance evaluation system "evaluates midshipmen in everything done outside of the classroom and reflects the developmental process of midshipmen becoming officers over the intensive, four-year USNA program" (Commandant of Midshipmen, 2003). The FITREP/EVALs contain performance assessment information concerning "military training, physical training, and the inculcation of the ideals of the naval profession" (Commandant of Midshipmen, 2003). Therefore, the scores provided in the evaluations are "used for many professional actions during training and selection for leadership positions" (Commandant of Midshipmen, 2003).

3. Structure

Both the FITREP and EVAL forms are completed using a software program called NAVFIT. The software version currently in use, NAVFIT 98A, can be obtained from the internet or from Naval Academy Aptitude Officer. According to the Naval Academy instruction, COMDTMIDNINST 1610.3B, midshipman performance evaluations "will be written by midshipmen in the chain of command" (Commandant of Midshipmen, 2003). Therefore, each midshipman is evaluated semi-annually using the appropriate form. Next, the evaluations must be forwarded to the Reporting Senior (usually the Company Officer), who will assign the final performance grade for the semester. The first semester evaluation includes performance during summer training.

The second semester evaluation covers the period between the completion of first semester final exams and the commencement of second semester final exams.

The evaluated midshipman is provided a grade between 1.0 and 5.0 for each performance trait. If the midshipman can not be graded on a specific performance trait, then a grade of NOB (Not Observed) is provided for that trait. A grade of 3.0 represents performance in accordance with Navy standards. A grade of 5.0 represents performance that is far above standards, and a grade of 1.0 represents performance that is poor or unsatisfactory. The specific grade definitions are as follows:

1.0: Below Standards

2.0: Progressing

3.0: Meets Standards

4.0: Above Standards

5.0: Greatly Exceeds Standards

The majority of midshipmen should receive trait grades between 3.0 and 4.0 (Commandant of Midshipmen, 2003). The FITREP and EVAL forms are generally the same with only a few differences, primarily in the evaluated performance traits. The FITREP and EVAL performance traits are listed later in the next sections of this chapter.

4. FITREP Performance Traits

a. Professional Expertise

This trait is used to evaluate the midshipman on his or her professional knowledge proficiency and individual qualifications.

b. Command or Organizational Climate / Equal Opportunity

This trait is used to evaluate the midshipman on his or her contributions to the growth and development of others, as well as fair and equal treatment of others. This trait is also used to evaluate the midshipman on his or her contributions to the community.

c. Military Bearing / Character

This trait is used to evaluate the midshipman on his or her overall appearance, conduct, physical fitness, and adherence to the Navy's core values (honor, courage, and commitment).

d. Teamwork

This trait is used to evaluate the midshipman on his or her contributions towards team building and team results.

e. Mission Accomplishment and Initiative

This trait is used to evaluate the midshipman on his or her ability to plan, prioritize, take initiative, and accomplish personal and professional goals.

f. Leadership

This trait is used to evaluate the midshipman on his or her exhibited skills at organizing, motivating and developing others to accomplish personal and professional goals.

5. EVAL Performance Traits

a. Professional Knowledge

This trait is used to evaluate the midshipman on his or her technical knowledge and practical application of that knowledge.

b. Quality of Work

This trait is used to evaluate the midshipman on his or her standard of work and the value of the end product.

c. Command or Organizational Climate / Equal Opportunity

This trait is used to evaluate the midshipman on his or her contributions to the growth and development of others, as well as fair and equal treatment of others. This trait is also used to evaluate the midshipman on his or her contributions to the community.

d. Military Bearing / Character

This trait is used to evaluate the midshipman on his or her overall appearance, conduct, physical fitness, and adherence to the Navy's core values (honor, courage, and commitment).

e. Personal Job Accomplishment / Initiative

This trait is used to evaluate the midshipman on his or her attitude of responsibility and quantity of work completed.

f. Teamwork

This trait is used to evaluate the midshipman on his or her contributions towards team building and team results.

g. Leadership

This trait is used to evaluate the midshipman on his or her exhibited skills at organizing, motivating and developing others to accomplish personal and professional goals.

D. MIDSHIPMAN EDUCATION ON APPEARANCE AND PERCEPTION

The Naval Academy has recognized the potential dangers of perception and bias, therefore these issues are actively addressed in the Professional Development classrooms. The Leadership, Ethics, and Law (LEL) Department specifically addresses these two topics to fourth class midshipmen and second class midshipmen. The material presented to the fourth class midshipmen focuses on different forms of nonverbal communication. Specifically, the course addresses the effects of appearance, facial expressions, eye contact, body language, and proxemics (Wieczorek & Cesari, 2003). Midshipmen are taught that people pass judgment on others within the first two minutes of seeing them, and that judgment is primarily based on the appearance of the other person (Wieczorek & Cesari, 2003).

The material presented to the second class midshipmen focuses more heavily on the power of perception and its potentially negative impacts. The midshipmen are taught that people tend to judge other's performance primarily by their perceptions of the other's

intentions and effectiveness. They are also taught that those perceptions will likely be based on limited observation and incomplete information (Waesche, 2004). The course material explains that people develop biases either when they fail to take in all available information or when they incompletely analyze situations and fail to build an accurate perception (Waesche, 2004). The midshipmen are exposed to theories and studies related to gender role beliefs, and they discuss misperception present in Western societies regarding gender/sex and leadership traits. They also discuss the fact that perceived masculinity often results in perceived leadership traits, whereas perceived femininity often has the opposite effect. Lastly, the midshipmen are warned to be aware of how they form perceptions so they can avoid forming hasty opinions of themselves and others (Waesche, 2004).

E. THE FOUR CLASS SYSTEM

The Naval Academy uses a ranking system to separate its students into four distinctive classes. The system is similar to the civilian university ranking structure in that each rank is descriptive of the number of years the midshipman has been at the Naval Academy. The first year (freshman) midshipman is classified as a Fourth Class (4/C) Midshipman, or Plebe. The second year (sophomore) midshipman is classified as a Third Class (3/C) Midshipman, or Youngster. The third year (junior) midshipman is classified as a Second Class (2/C) Midshipman. Lastly, the fourth year (senior) midshipman is classified as a First Class (1/C) Midshipman, or Firstie.

Each yearly progression of the midshipmen represents an increase in rank and an increase in responsibility towards other midshipmen's professional development. According to Waypoints (2003), the four-year system is designed to prepare midshipmen to accept the lifelong challenge of leadership. "The system incrementally provides skills and experiences that build upon each other and take midshipmen from the role of follower to the role of leader" (Waesche, 2002). Upon achieving the rank of first class midshipman, most midshipmen are required to formally evaluate subordinate midshipmen. The specific billet held by the midshipman will determine who and how many subordinate midshipmen for whom he or she is actually responsible.

F. CHAPTER SUMMARY

This chapter has provided a basic understanding of the influences of gender and physical attractiveness in the various arenas that are encountered throughout daily life, spanning from childhood to adulthood. Additionally, this chapter explained the FITREP/EVAL performance evaluation system utilized at the Naval Academy. Lastly, this chapter discussed the Naval Academy's four class system and the formal education presented to the midshipmen concerning appearance, perceptions, and bias.

The Naval Academy is both an academic and military institution that focuses on the professional development of future junior officers of the armed forces. However, the research findings suggest that the Naval Academy may not be immune to the effects of the stereotypes and biases in existence throughout the world. If such is the case, then some midshipmen may receive performance evaluation scores that do not reflect their actual level of performance. Therefore, this study was designed specifically to test the following hypotheses:

Hypothesis 1. Midshipmen who are perceived as physically attractive are evaluated differently than midshipmen who are perceived as physically unattractive.

Hypothesis 2. Female midshipmen are evaluated differently than male midshipmen.

The intention of this literature review was to provide insight into specific topical areas that have already been examined and are often found to be interrelated. These reviews were specifically chosen to be useful in providing additional insight into this analysis. The following chapter (Chapter III) extends the previous discussion by relating the data collected for this study to the variables discussed in this literature review.

III. METHODOLOGY

A. INTRODUCTION

This chapter explains the data sources, statistical methods, and variables used in this study. This study was conducted in two parts – a pilot study and a primary study. Both parts were specifically designed to collect data for testing the following hypotheses:

Hypothesis 1. Midshipmen who are perceived as physically attractive are evaluated differently than midshipmen who are perceived as physically unattractive.

Hypothesis 2. Female midshipmen are evaluated differently than male midshipmen.

B. DESIGN OVERVIEW

Participants were randomly assigned one of four experimental conditions of a 2 (sex of target) X 2 (attractiveness of target) factorial design. Each participant was provided a summary of a midshipman's performance, a copy of the midshipman's previous performance evaluation, and a color photograph depicting the midshipman as either an attractive or unattractive male or female. On the basis of the stimulus materials, each participant was required to rate his or her respective midshipman in terms of 10 performance-related measures and 3 personality and attractiveness measures.

C. PILOT STUDY

Prior to this research, a pilot study was conducted in November of 2003. This study was designed to aid in the selection of four stimulus photographs to be used in the primary study. Appendix A contains the results of the pilot study.

A total of 65 participated in the pilot study. Three separate groups were surveyed during this study. The first two groups comprised 49 fourth class midshipmen attending a Naval Leadership core class, NL112. The midshipmen in the class were not notified prior to the class that they would be asked to participate in an experiment. All

midshipmen volunteered to participate. The mean age of the fourth class midshipman participants was 18.7 (*SD*, 0.7) and 90% were male.

The third group comprised 16 Naval Postgraduate School graduate students who were prospective Naval Academy company officers. The graduate students were notified prior to the class that they would be asked to participate in an experiment. All students volunteered to participate. The mean age of the graduate student participants was 30.0 (*SD*, 3.5) and 94% were male. With all three groups combined, the mean age was 21.4 (*SD*, 5.2) and 91% male. Table A-1 shows the demographic data for the pilot study participants.

The participants rated 24 midshipman photographs (12 male, 12 female) obtained from Naval Academy yearbooks (Classes of 1989 and 1992) using a 9-point Likert scale in which 1 was *very unattractive* and 9 was *very attractive*. All photographs were in color format and presented the target midshipmen in identical poses, uniforms, and background. To eliminate race and familiarity as possible confounds, only Caucasian midshipmen photographs were used, and all midshipmen in the photographs were unfamiliar to the participants. The resultant ratings aided the selection of the four final photographs used in the primary study. The highest and lowest photo ratings for both the midshipman groups and the graduate student group corresponded to the same four photographs. Therefore, the ratings for all three groups were combined into one large group. The four final photographs selected consisted of the male photo rated as the most attractive (mean = 7.38, *SD* = 1.33), the female photo rated as the most attractive (mean = 7.75, *SD* = 1.30), the male photo rated as the least attractive (mean = 1.88, *SD* = 1.23), and the female photo rated as the least attractive (mean = 1.62, *SD* = 0.88). Table A-2 shows the results of the ratings for the 24 midshipman photographs.

D. PARTICIPANTS

A total of 158 midshipmen participated in the primary study. The primary study participants consisted of 57 Naval Academy first class midshipmen and 101 second class midshipmen, all attending Naval Leadership core classes, NL400 and NL302, respectively. Approval was obtained from the Naval Academy Institutional Research

Department and Naval Academy Leadership Ethics and Law Department. A consent form was prepared, providing an introduction and rationale for the study as well as soliciting participation. The rationale presented to the participants disguised the true nature of the study. To obtain an adequate sample size, students were culled from eight classes (class sizes of 18, 20, 15, 16, 16, 16, 25, and 33). Participants were asked, and encouraged by the instructor, to voluntarily participate in the study. The midshipmen were not notified prior to the class that they would be asked to participate in an experiment. All midshipmen volunteered to participate in the survey, with the exception of one first class midshipman. Tables B-1 and B-2 show the demographic data for the primary study participants.

E. STIMULUS MATERIALS

The stimulus materials included a summary of recent performance for the target midshipman, photographs of the target midshipmen, a copy of the target's last performance evaluation, and an assessment questionnaire. The development of the stimulus materials was aided by pilot study results, information obtained from actual midshipman performance evaluations, and information obtained from an interview with a Naval Academy company officer. Appendix B contains the stimulus materials described in further detail below.

1. Summary of Performance

Four sets of performance summaries were constructed with one set corresponding to the attractive female target (Packet A), one set corresponding to the attractive male target (Packet B), one set corresponding to the unattractive female target (Packet C), and one set corresponding to the unattractive male target (Packet D). All performance summaries were identical except for the name, sex, and photo (which was presented in the top right corner of the performance summary). All summaries contained the same information concerning the target's performance.

The summaries were designed to describe the target as an average-performing third class midshipman. Information regarding what constituted an average-performing third class midshipman was gathered from actual midshipman performance evaluations

and an interview with a Naval Academy company officer. Informal discussions with Naval Academy staff verified that the summary presented the image of an average-performing third class midshipman.

2. Photographs

Four photographs were selected from the pilot study to be used. One photograph represented an attractive female midshipman, one photograph represented an attractive male midshipman, one photograph represented an unattractive female midshipman, and one photograph represented an unattractive male midshipman. In order to exclude race as a possible confound, all photographs were of Caucasian males and females. All photographs were in color format and presented the targets in identical poses, uniforms, and background.

3. Previous Performance Evaluation

Two sets of performance evaluations were constructed with one set corresponding to the male target and one set corresponding to the female target. Each evaluation was identical except for name, sex, designator (midshipman identification number or alpha code), and social security number. The male target was named Kyle W. Hamilton and the female target was named Kirsten W. Taylor. Both evaluations displayed the same duties, physical readiness score, performance trait scores, performance comments, and promotion recommendations.

The evaluations were modeled after actual midshipman performance evaluations and designed to describe an average level of performance for a third class midshipman. Each performance trait was scored 3.0 on the evaluation form, giving the target a trait average score of 3.0. An interview was conducted with a Naval Academy company officer in order to determine what parameters constituted an average level of performance for each trait. Information obtained from actual third class midshipman performance evaluations also aided in the determination of the parameters. Informal discussions with Naval Academy staff verified that the evaluations presented the image of an actual midshipman performance evaluation.

4. Assessment Questionnaire

The last page of the packet distributed to the participants contained an assessment questionnaire very similar to the questionnaire used by Chung and Leung (1988). The assessment questionnaire asked each participant to rate his or her respective target on five 9-point bipolar scales (concern for success, effectiveness, friendliness, sociability, and attractiveness) and one 7-point Likert scale (leadership potential). These items were included in order to determine whether the independent variables affected the participants' perceptions of the targets and how such perceptions might affect their evaluations.

F. DEPENDENT MEASURES

1. Professional Knowledge (Trait 1)

This variable (TRAIT1) represents the level of knowledge the participant assessed the target to possess. This variable is scored on a 1.0 - 5.0 scale. The higher the score, the greater the assessed level of professional knowledge of the target.

2. Quality of Work (Trait 2)

This variable (TRAIT2) represents the quality of work the participant assessed the target to possess. This variable is scored on a 1.0 - 5.0 scale. The higher the score, the greater the assessed quality of work of the target.

3. Command or Organizational Climate / Equal Opportunity (Trait 3)

This variable (TRAIT3) represents the participant's assessment of the target's attitude concerning organizational climate and equal opportunity. This variable is scored on a 1.0 - 5.0 scale. The higher the score, the better the target's attitude.

4. Military Bearing / Character (Trait 4)

This variable (TRAIT4) represents the level of military bearing and character the participant assessed the target to possess. This variable is scored on a 1.0 - 5.0 scale. The higher the score, the greater the target's military bearing and character.

5. Personal Job Accomplishment / Initiative (Trait 5)

This variable (TRAIT5) represents the level of personal job accomplishment and initiative the participant assessed the target to possess. This variable is scored on a 1.0 -

5.0 scale. The higher the score, the greater the target's tendency to show initiative and accomplish personal jobs.

6. Teamwork (Trait 6)

This variable (TRAIT6) represents the level of teamwork the participant assessed the target to possess. This variable is scored on a 1.0 - 5.0 scale. The higher the score, the greater the target's contributions towards teamwork.

7. Leadership (Trait 7)

This variable (TRAIT7) represents the level of leadership skills the participant assessed the target to possess. This variable is scored on a 1.0 - 5.0 scale. The higher the score, the greater the target's level of leadership skills.

8. Trait Average

The trait average (TRAITAVG) is computed by averaging all seven performance trait scores provided by the participant. The trait average ranges between 1.0 and 5.0. The higher the trait average, the higher the assessed level of performance of the midshipman.

9. Leadership Potential

This variable (LEAD_POT) represents the participant's assessment of the target's leadership potential. Each participant was required to complete the entire survey before providing this score. Each participant was required to designate the midshipman leadership rank (MIR, M/ENS, M/LTJG, M/LT, M/LCDR, M/CDR, or M/CAPT) for which he or she would recommend the target. LEAD_POT was recoded into LEAD_STR, where each rank was recoded into the equivalent number of uniform stripes. MIRs were recoded as 0. M/ENSs were recoded as 1. M/LTJGs were recoded as 2. M/LTs were recoded as 3. M/LCDRs were recoded as 4. M/CDRs were recoded as 5. M/CAPTs were recoded as 6.

G. INDEPENDENT MEASURES

1. Survey Packet

This variable (PACKET) was created to describe the packet version provided to the participant. The survey containing the attractive female was coded A. The survey

containing the attractive male was coded B. The survey containing the unattractive female was coded C. The survey containing the unattractive male was coded D. PACKET was recoded into TGT_SEX and TGT_ATTR.

2. Target Sex

This variable (TGT_SEX) was created to separate the male photographs from the female photographs. Male photographs were coded 1. Female photographs were coded 2.

3. Target Attractiveness

This variable (TGT_ATTR) was created to separate the attractive photographs from the unattractive photographs. Attractive photographs were coded 1. Unattractive photographs were coded 2.

4. Participant Sex

This variable (PAR_SEX) was created to separate the male participants from the female participants. Male participants were coded M. Female participants were coded F.

5. Participant Rank

This variable (PAR_RANK) was created to separate the First Class Midshipmen from the Second Class Midshipmen. First Class Midshipmen were coded 1. Second Class Midshipmen were coded 2.

6. Assessed Concern for Success

This variable (CONCERN) represents the participant's assessment of the target midshipman's level of personal concern for his or her success at the Naval Academy. An enthusiastic attitude would deserve a very high CONCERN score, whereas an apathetic attitude would deserve a very low CONCERN score. Each participant assigned a score for his or her respective target midshipman using a 9-point Likert scale (1 = very low concern, 9 = very high concern). This variable was included to aid in determining whether the perceived attitude of the target may have affected the participant's perception of the target's performance.

7. Assessed Effectiveness

This variable (EFFECTIV) represents the participant's assessment of the target midshipman's level of effectiveness as a Third Class Midshipman. A midshipman who

successfully accomplishes requirements and meets all expectations deserves a very high EFFECTIV score, whereas a midshipman who fails to accomplish requirements and meet expectations deserves a very low EFFECTIV score. Each participant assigned a score for his or her respective target midshipman using a 9-point Likert scale (1 = very low effectiveness, 9 = very high effectiveness). This variable was included to aid in determining whether the perceived effectiveness of the target may have affected the participant's perception of the target's performance.

8. Assessed Friendliness

This variable (FRIENDLY) represents the participant's assessment of the target midshipman's level of friendliness. A midshipman who is consistently nice and respectful to others would deserve a very high FRIENDLY score, whereas a midshipman who is consistently mean and disrespectful to others would deserve a very low FRIENDLY score. Each participant assigned a score for his or her respective target midshipman using a 9-point Likert scale (1 = very low friendliness, 9 = very high friendliness). This variable was included to aid in determining whether the perceived friendliness of the target may have affected the participant's perception of the target's performance.

9. Assessed Sociability

This variable (SOCIAL) represents the participant's assessment of the target midshipman's level of sociability. A midshipman who is always approachable and willing to hold a conversation would deserve a very high SOCIAL score, whereas a midshipman who is never approachable and rarely willing to hold a conversation would deserve a very low SOCIAL score. Each participant assigned a score for his or her respective target midshipman using a 9-point Likert scale (1 = very low sociability, 9 = very high sociability). This variable was included to aid in determining whether perceived sociability of the target may have affected the participant's perception of the target's performance.

10. Assessed Attractiveness

This variable (ATTRACT2) represents the participant's assessment of the target's level of attractiveness. The participants were required to complete the entire survey

before providing this score. Each participant assigned a score for his or her respective target midshipman using a 9-point Likert scale identical to the one used in the pilot study (1 = very unattractive, 9 = very attractive). This variable was included to aid in determining whether perceived attractiveness of the target may have affected the participant's perception of the target's performance. Thus, this rating provided a manipulation check.

H. PROCEDURE

A packet containing a participant questionnaire, the stimulus materials, and a blank evaluation form was assembled along with a cover sheet, participation consent form, and detailed instructions for each participant. The consent form informed the participants that the purpose of the study was to examine the limitations of the midshipman performance evaluation system and the evaluation grades provided by senior-ranking midshipmen. Each participant received an identical performance summary and previous evaluation form to eliminate performance as a possible confound. The only differences in the distributed packets were the photographs, names, and social security numbers. Male targets were given names different than the female targets in an effort to compensate for the close quarters of the classroom environment and further convince each participant that his or her respective packet was unique. The packets were distributed in an alternating manner such that the midshipmen seated next to each other possessed a packet containing stimulus materials for a target of different sex and level of attractiveness. Instructions to the participants indicated that they were to read the scenario, examine the performance summary and previous evaluation, and then provide ratings in the order of the packet. The assessment questionnaire followed the blank evaluation form. Participants were not required to provide their names or other identifying information.

THIS PAGE INTENTIONALLY LEFT BLANK

IV. DATA ANALYSIS

A. INTRODUCTION

This chapter contains the analysis models described in the previous chapter. The influences of sex and physical attractiveness were examined for each of 11 dependent variables. All analyses were performed using the Statistical Package for Social Scientists (SPSS) Standard Version 11.5.

B. ANALYSIS RESULTS

A total of 158 participants with complete ratings and questionnaires was obtained. Because of the low representation of female midshipman participants (n = 20, 12.7%), all female participant data were excluded from the analyses. The resulting sample size was 138 participants with the packet distribution as depicted in Table 1.

Table 1. Distribution of Primary Study Target Midshipman Packets

Packet	Participants		
	1/C	2/C	Total
A – Attractive Female	12	21	33
B – Attractive Male	13	20	33
C – Unattractive Female	13	23	36
D – Unattractive Male	12	24	36

1. Attractiveness Manipulation Check

To ascertain whether attractiveness ratings of the pilot study corresponded to the attractiveness ratings of the primary study, the variable measuring the attractiveness of the targets (ATTRACT2) was subjected to a two-way analysis of variance (ANOVA). The results showed that the effect for attractiveness was significant. Targets of high attractiveness were rated as more attractive than those of low attractiveness, (F1, 137) =

211.872, $p < .001$ (*M*s for attractiveness were 7.33, attractive female; 6.73, attractive male; 3.47, unattractive female; 3.81, unattractive male). Thus, the manipulation for physical attractiveness was successful.

Figure 1 is a graphical comparison of the attractiveness score means from the pilot and primary studies. The figure shows that the attractive targets were rated as above average in both studies and the unattractive targets were rated as below average in both studies.

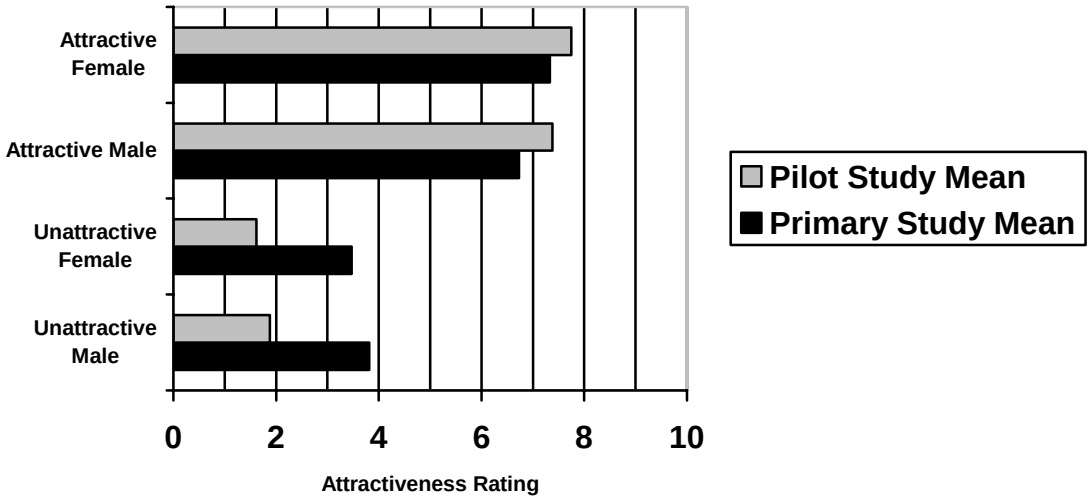

Figure 1. Comparison Between Pilot Study and Primary Study Attractiveness Rating Means.

2. Evaluation Performance Traits

All seven evaluation performance traits were analyzed using a two-way ANOVA with sex of the target and attractiveness of the target as between-subject factors. Each of the following subsections lists the analysis data pertaining to one of the performance traits. The tables and figures of each subsection will show the strength of influence that sex and physical attractiveness have on each specific trait that is evaluated on the midshipman performance evaluation. Appendix C contains the estimated marginal means analyses for each performance trait.

Table 2 lists the mean trait scores provided for each evaluation performance trait and compares the scores by packet version. It also lists and compares the mean computed

trait averages for each packet version. The data in the table show that the attractive female (A) received the highest evaluation scores in four categories, including the overall trait average, and the attractive male (B) received the highest evaluation scores in the remaining four categories. The data also show that the unattractive female (C) received the lowest evaluation scores in six of the eight categories, including the overall trait average.

Table 2. Mean Performance Trait Scores for Primary Study Target Midshipmen

Performance Trait	Attractive Female	Attractive Male	Unattractive Female	Unattractive Male	Total
Professional Knowledge	3.55	3.67	3.42	3.47	3.52
Quality of Work	3.61	3.27	3.25	3.36	3.37
Command Climate / EO	3.67	3.21	3.22	3.36	3.36
Military Bearing	3.70	3.73	3.47	3.64	3.63
Job Accomplishment / Initiative	3.42	3.27	3.17	3.17	3.25
Teamwork	3.39	3.58	3.56	3.50	3.51
Leadership	3.24	3.33	3.14	3.19	3.22
Trait Average	3.51	3.44	3.32	3.38	3.41

a. Professional Knowledge (Trait 1)

The first ANOVA analyzed the effects of target sex and attractiveness on the participants' assessment of the targets' level of professional knowledge. Table 3 lists the analysis results and shows the effects of sex and attractiveness on professional knowledge to be nonsignificant. The effect of attractiveness only approaches significance ($p = .074$), and sex is nonsignificant ($p = .327$).

Table 3. Analysis of Variance Summary for Primary Study Ratings of Target Midshipmen on the Professional Knowledge Trait

	df	*SS*	*F*	η^2	*p*
Sex (S)	1	.269	.968	.007	.327
Attractiveness (A)	1	.899	3.237	.024	.074
S X A	1	.037	.134	.001	.715
Error	134	37.237	(.278)		
Total	138	1750.000	--		

Notes: Sex = Target Sex – male or female; Attractiveness = Target Attractiveness – attractive or unattractive. Value enclosed in parentheses represents the mean square error.

Table 4 lists the descriptive statistics for the analysis of the Professional Knowledge performance trait. It is worth noting that although the effects of sex and attractiveness were not significant, the mean performance trait score for the female targets (*M*s = 3.48) was lower than the mean performance trait score for the male targets (*M*s = 3.57), and the mean performance trait score for the unattractive targets (*M*s = 3.44) was much lower than the mean performance trait score for the attractive targets (*M*s = 3.61).

Table 4. Descriptive Statistics for Primary Study Ratings of Target Midshipmen on the Professional Knowledge Trait

Packet	Mean	*SD*	N
Attractive Male	3.67	.479	33
Unattractive Male	3.47	.506	36
Males	3.57	.499	69
Attractive Female	3.55	.564	33
Unattractive Females	3.42	.554	36
Females	3.48	.559	69
Attractive	3.61	.523	66
Unattractive	3.44	.528	72

Figure 2 is a graphical depiction of the interactive effects of sex and attractiveness on the assessment of the level of professional knowledge. The figure shows that the attractive male target was evaluated as having a much higher level of professional knowledge (*M*s = 3.67) than the unattractive female (*M*s = 3.42).

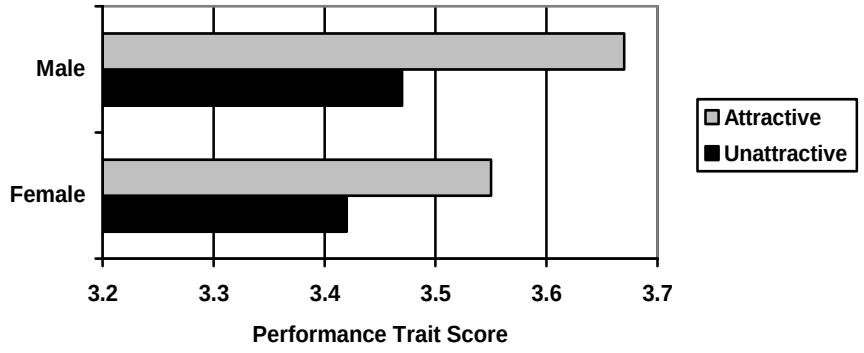

Figure 2. Interactive Effects of Attractiveness and Sex on Primary Study Ratings of Target Midshipmen on the Professional Knowledge Trait.

Figure 3 is a graphical depiction of the individual effects of sex and attractiveness on the assessment of the level of professional knowledge. It shows that the attractive targets were evaluated as possessing a much higher level of professional knowledge (*M*s = 3.61) than the unattractive targets (*M*s = 3.44). Additionally, it shows that the male targets were evaluated to have a slightly higher level of professional knowledge (*M*s = 3.57) than the female targets (*M*s = 3.48).

Figure 3. Individual Effects of Attractiveness and Sex on Primary Study Ratings of Target Midshipmen on the Professional Knowledge Trait.

b. Quality of Work (Trait 2)

The second ANOVA analyzed the effects of target sex and attractiveness on the participants' assessment of the targets' quality of work. Table 5 lists the analysis results and shows the interactive effect of sex and attractiveness on quality of work to be statistically significant ($p = .021$).

Table 5. Analysis of Variance Summary for Primary Study Ratings of Target Midshipmen on the Quality of Work Trait

	df	*SS*	*F*	η^2	*p*
Sex (S)	1	.425	1.373	.010	.243
Attractiveness (A)	1	.617	1.993	.015	.160
S X A	1	1.700	5.493	.039	.021
Error	134	41.480	(.310)		
Total	138	1611.000	--		

Notes: Sex = Target Sex – male or female; Attractiveness = Target Attractiveness – attractive or unattractive. Value enclosed in parentheses represents the mean square error.

Table 6 lists the descriptive statistics for the analysis of the Quality of Work performance trait. The statistics show that the mean performance trait score for the female targets (*M*s = 3.42) was higher than the mean performance trait score for the male targets (*M*s = 3.32), and the mean performance trait score for the attractive targets (*M*s = 3.44) was higher than the mean performance trait score for the unattractive targets (*M*s = 3.31).

Table 6. Descriptive Statistics for Primary Study Ratings of Target Midshipmen on the Quality of Work Trait

	Mean	*SD*	N
Attractive Male	3.27	.574	33
Unattractive Male	3.36	.487	36
Males	3.32	.528	69
Attractive Female	3.61	.659	33
Unattractive Females	3.25	.500	36
Females	3.42	.604	69
Attractive	3.44	.636	66
Unattractive	3.31	.493	72

Figure 4 is a graphical depiction of the interactive effects of sex and attractiveness on the assessment of the quality of work. The figure shows that the attractive female target was evaluated as producing a much higher quality of work than the unattractive female target (*M*s = 3.61) and both male targets (*M*s ≤ 3.36).

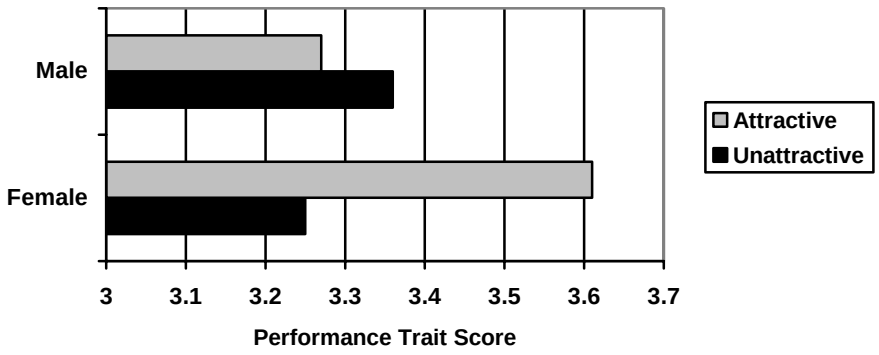

Figure 4. Interactive Effects of Attractiveness and Sex on Primary Study Ratings of Target Midshipmen on the Quality of Work Trait.

Figure 5 is a graphical depiction of the individual effects of sex and attractiveness on the assessment of the quality of work. It shows that the attractive targets were evaluated as producing higher quality work (*M*s = 3.44) than the unattractive

targets (*M*s = 3.31). The figure also shows that the female targets were evaluated more positively (*M*s = 3.42) than the male targets (*M*s = 3.32).

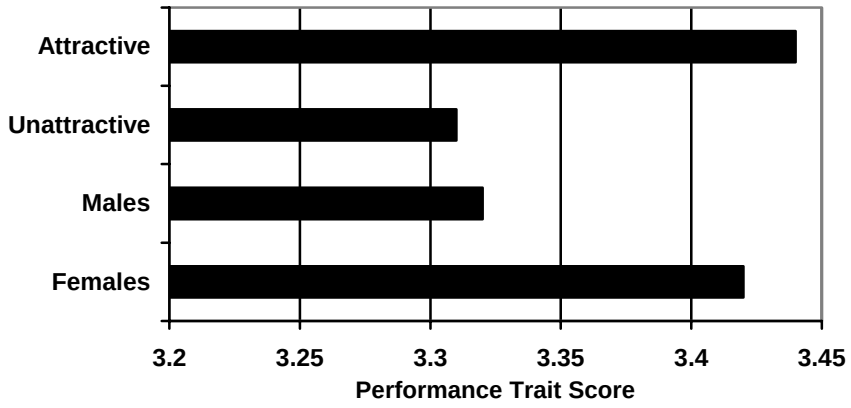

Figure 5. Individual Effects of Attractiveness and Sex on Primary Study Ratings of Target Midshipmen on the Quality of Work Trait.

c. Organizational Climate / Equal Opportunity (Trait 3)

The third ANOVA analyzed the effects of target sex and attractiveness on the participants' assessment of the targets' positive contributions towards organizational climate and equal opportunity (OC/EO). Table 7 lists the analysis results and shows the interactive effects of sex and attractiveness on OC/EO to be highly significant ($p = .004$).

Table 7. Analysis of Variance Summary for Primary Study Ratings of Target Midshipmen on the Organizational Climate / Equal Opportunity Trait

	df	*SS*	*F*	η^2	*p*
Sex (S)	1	.858	2.426	.018	.122
Attractiveness (A)	1	.751	2.126	.016	.147
S X A	1	3.032	8.575	.060	.004
Error	134	47.376	(.354)		
Total	138	1612.000	--		

Notes: Sex = Target Sex – male or female; Attractiveness = Target Attractiveness – attractive or unattractive. Value enclosed in parentheses represents the mean square error.

Table 8 lists the descriptive statistics for the analysis of the OC/EO performance trait. The statistics show that the mean performance trait score for the female targets (*M*s = 3.43) was higher than the mean performance trait score for the male targets (*M*s = 3.29), and the mean performance trait score for the attractive targets (*M*s = 3.44) was higher than the mean performance trait score for the unattractive targets (*M*s = 3.29).

Table 8. Descriptive Statistics for Primary Study Ratings of Target Midshipmen on the Organizational Climate / Equal Opportunity Trait

	Mean	*SD*	N
Attractive Male	3.21	.545	33
Unattractive Male	3.36	.639	36
Males	3.29	.597	69
Attractive Female	3.67	.645	33
Unattractive Females	3.22	.540	36
Females	3.43	.630	69
Attractive	3.44	.636	66
Unattractive	3.29	.592	72

Figure 6 is a graphical depiction of the interactive effects of sex and attractiveness on the assessment of positive contributions towards OC/EO. The figure shows that the attractive female target was evaluated as contributing much more (*M*s = 3.67) than the unattractive female target (*M*s = 3.22) and both male targets (*M*s ≤ 3.36).

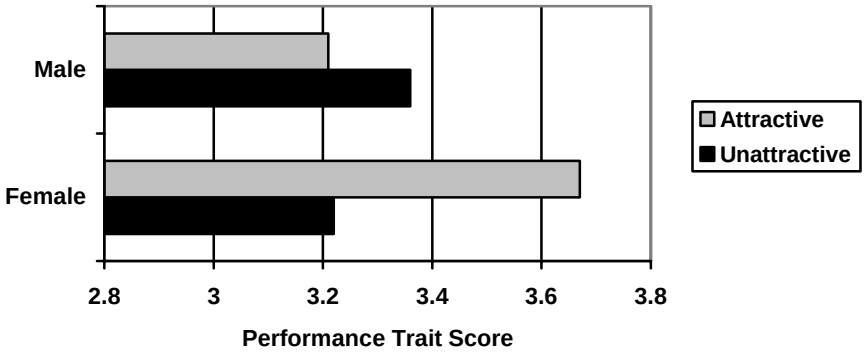

Figure 6. Interactive Effects of Attractiveness and Sex on the Organizational Climate / Equal Opportunity Trait.

Figure 7 is a graphical depiction of the individual effects of sex and attractiveness on the assessment of positive contributions towards OC/EO. It shows that the attractive targets were evaluated as making more positive contributions (*M*s = 3.44) than the unattractive targets (*M*s = 3.29), and the female targets were evaluated more positively (*M*s = 3.43) than the male targets (*M*s = 3.29).

Figure 7. Individual Effects of Attractiveness and Sex on Primary Study Ratings of Target Midshipmen on the Organizational Climate / Equal Opportunity Trait.

d. Military Bearing / Character (Trait 4)

The fourth ANOVA analyzed the effects of target sex and attractiveness on the participants' assessment of the targets' military bearing and character. Table 9

lists the analysis results and shows the effects of sex and attractiveness on military bearing to be nonsignificant ($p \geq .122$).

Table 9. Analysis of Variance Summary for Primary Study Ratings of Target Midshipmen on the Military Bearing Trait

	df	*SS*	*F*	η^2	*p*
Sex (S)	1	.334	.956	.007	.330
Attractiveness (A)	1	.844	2.417	.018	.122
S X A	1	.160	.458	.003	.500
Error	134	46.793	(.349)		
Total	138	1867.000	--		

Notes: Sex = Target Sex – male or female; Attractiveness = Target Attractiveness – attractive or unattractive. Value enclosed in parentheses represents the mean square error.

Table 10 lists the descriptive statistics for the analysis of the Military Bearing / Character performance trait. It is worthy of noting that although the effects of sex and attractiveness were nonsignificant, the mean performance trait score for the males (*M*s = 3.68) was higher than the mean performance trait score for the females (*M*s = 3.58), and the mean performance trait scores for the attractive targets (*M*s = 3.73, male; *M*s = 3.70, female) were much higher than the mean performance trait score for the unattractive female (*M*s = 3.47).

Table 10. Descriptive Statistics for Primary Study Ratings of Target Midshipmen on the Military Bearing / Character Trait

	Mean	*SD*	N
Attractive Male	3.73	.719	33
Unattractive Male	3.64	.543	36
Males	3.68	.630	69
Attractive Female	3.70	.529	33
Unattractive Females	3.47	.560	36
Females	3.58	.553	69
Attractive	3.71	.627	66
Unattractive	3.56	.554	72

Figure 8 is a graphical depiction of the interactive effects of sex and attractiveness on the assessment of military bearing / character. It shows that the unattractive female was evaluated as demonstrating much less military bearing and character (*M*s = 3.47) than all of the other targets (*M*s ≥ 3.64).

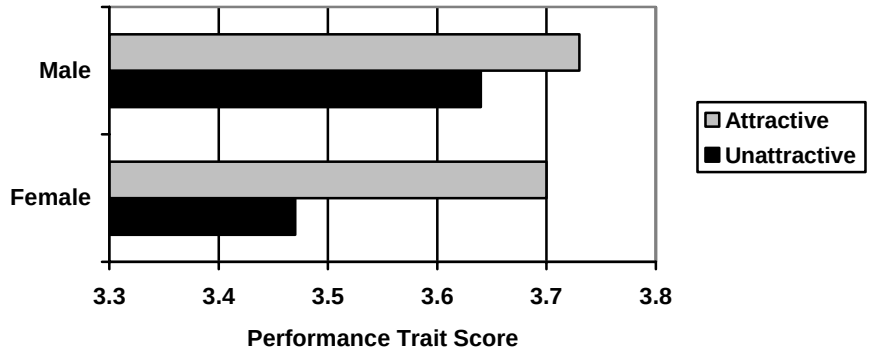

Figure 8. Interactive Effects of Attractiveness and Sex on the Military Bearing / Character Trait.

Figure 9 is a graphical depiction of the individual effects of sex and attractiveness on the assessment of military bearing / character. The figure shows that the attractive targets (*M*s = 3.71) were evaluated as demonstrating much more military

bearing than the unattractive targets (*M*s = 3.56). The figure also shows that the male targets were evaluated more positively (*M*s = 3.68) than the female targets (*M*s = 3.58).

Figure 9. Individual Effects of Attractiveness and Sex on Primary Study Ratings of Target Midshipmen on the Military Bearing / Character Trait.

e. Personal Job Accomplishment / Initiative (Trait 5)

The fifth ANOVA analyzed the effects of target sex and attractiveness on the participants' assessment of the targets' level of initiative and frequency of job accomplishment. Table 11 lists the analysis results and shows the effect of attractiveness on job accomplishment / initiative to be significant ($p = .032$).

Table 11. Analysis of Variance Summary for Primary Study Ratings of Target Midshipmen on the Job Accomplishment / Initiative Trait

	df	*SS*	*F*	η^2	*p*
Sex (S)	1	.198	.812	.006	.369
Attractiveness (A)	1	1.138	4.678	.034	.032
S X A	1	.198	.812	.006	.369
Error	134	32.606	(.243)		
Total	138	1495.000	--		

Notes: Sex = Target Sex – male or female; Attractiveness = Target Attractiveness – attractive or unattractive. Value enclosed in parentheses represents the mean square error.

Table 12 lists the descriptive statistics for the analysis of the Personal Job Accomplishment / Initiative performance trait. The statistics show that the male and female targets were evaluated similarly, but the attractive targets were evaluated much higher (*M*s = 3.35) than unattractive targets (*M*s = 3.17).

Table 12. Descriptive Statistics for Primary Study Ratings of Target Midshipmen on the Job Accomplishment / Initiative Trait

	Mean	*SD*	N
Attractive Male	3.27	.517	33
Unattractive Male	3.17	.561	36
Males	3.22	.539	69
Attractive Female	3.42	.502	33
Unattractive Females	3.17	.378	36
Females	3.29	.457	69
Attractive	3.35	.511	66
Unattractive	3.17	.475	72

Figure 10 is a graphical depiction of the interactive effects of sex and attractiveness on the assessment of initiative and job accomplishment. It shows that the attractive female was evaluated as displaying much more initiative (*M*s = 3.42) than the attractive male (*M*s = 3.27) and both unattractive targets (*M*s = 3.17).

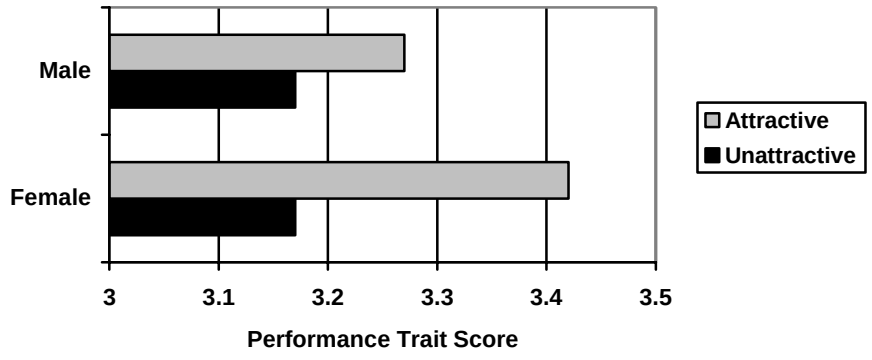

Figure 10. Interactive Effects of Attractiveness and Sex on Primary Study Ratings of Target Midshipmen on the Job Accomplishment / Initiative Trait.

Figure 11 is a graphical depiction of the individual effects of sex and attractiveness on the assessment initiative and job accomplishment. The graph shows that the attractive targets were evaluated as displaying much more initiative (*M*s = 3.35) than the unattractive targets (*M*s = 3.17) and the females were evaluated as displaying slightly more initiative (*M*s = 3.29) than the males (*M*s = 3.22).

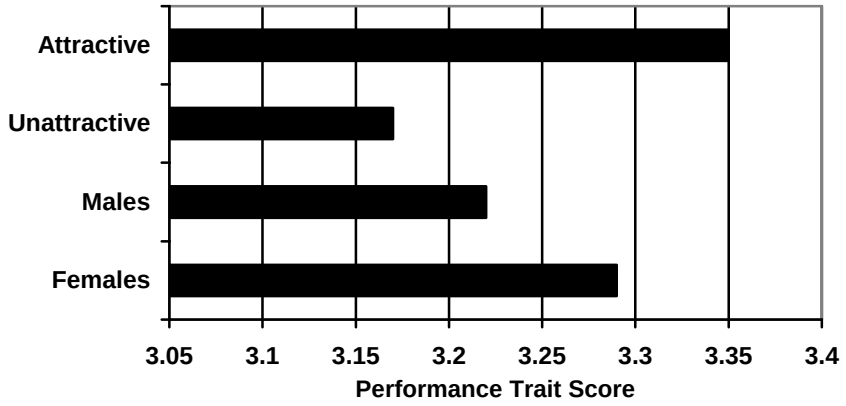

Figure 11. Individual Effects of Attractiveness and Sex on Primary Study Ratings of Target Midshipmen on the Job Accomplishment / Initiative Trait.

f. Teamwork (Trait 6)

The sixth ANOVA analyzed the effects of target sex and attractiveness on the participants' assessment of the targets' teamwork-related actions and attitude. Table 13 lists the analysis results and shows the effects of sex and attractiveness of teamwork to be nonsignificant.

Table 13. Analysis of Variance Summary for Primary Study Ratings of Target Midshipmen on the Teamwork Trait

	df	*SS*	*F*	η^2	*p*
Sex (S)	1	.137	.401	.003	.528
Attractiveness (A)	1	.063	.186	.001	.667
S X A	1	.485	1.418	.010	.236
Error	134	45.828	(.342)		
Total	138	1744.000	--		

Notes: Sex = Target Sex – male or female; Attractiveness = Target Attractiveness – attractive or unattractive. Value enclosed in parentheses represents the mean square error.

Table 14 lists the descriptive statistics for the analysis of the Teamwork performance trait. The statistics show that the mean performance trait score for the attractive female targets (*M*s = 3.39) was the lowest amongst all of the other targets ($p \geq$ 3.50).

Table 14. Descriptive Statistics for Primary Study Ratings of Target Midshipmen on the Teamwork Trait

	Mean	*SD*	N
Attractive Male	3.58	.614	33
Unattractive Male	3.50	.561	36
Males	3.54	.584	69
Attractive Female	3.39	.496	33
Unattractive Females	3.56	.652	36
Females	3.48	.584	69
Attractive	3.48	.561	66
Unattractive	3.53	.604	72

Figure 12 is a graphical depiction of the interactive effects of sex and attractiveness on the assessment of teamwork. The graph shows that the unattractive female was evaluated as demonstrating much more teamwork (*M*s = 3.56) than the attractive female (*M*s = 3.39).

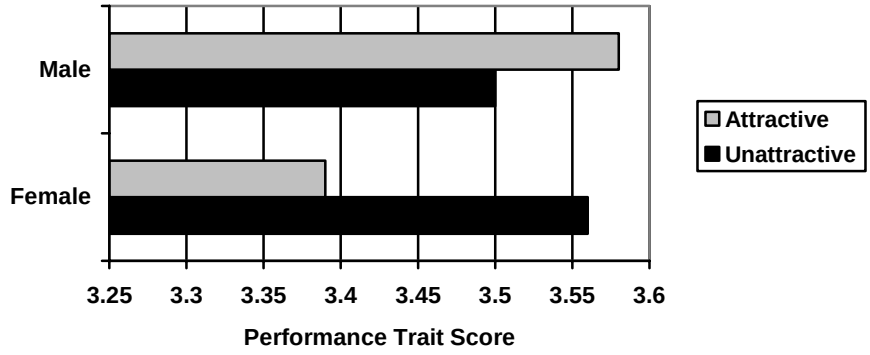

Figure 12. Interactive Effects of Attractiveness and Sex on Primary Study Ratings of Target Midshipmen on the Teamwork Trait

Figure 13 is a graphical depiction of the individual effects of sex and attractiveness on the assessment of the level of teamwork of the target. It shows that the male targets and unattractive targets were evaluated only slightly higher than the female targets and attractive targets. Overall, it shows that all targets were assessed to demonstrate nearly the same level of teamwork.

Figure 13. Individual Effects of Attractiveness and Sex on Primary Study Ratings of Target Midshipmen on the Teamwork Trait.

g. Leadership (Trait 7)

The seventh ANOVA analyzed the effects of target sex and attractiveness on the participants' assessment of the targets' leadership skills. Table 15 lists the analysis results and shows the effects of sex and attractiveness on leadership to be nonsignificant.

Table 15. Analysis of Variance Summary for Primary Study Ratings of Target Midshipmen on the Leadership Trait

	df	*SS*	*F*	η^2	*p*
Sex (S)	1	.185	.482	.004	.489
Attractiveness (A)	1	.506	1.321	.010	.253
S X A	1	.011	.028	.000	.867
Error	134	51.338	(.383)		
Total	138	1487.000	--		

Notes: Sex = Target Sex – male or female; Attractiveness = Target Attractiveness – attractive or unattractive. Value enclosed in parentheses represents the mean square error.

Table 16 shows the descriptive statistics for the analysis of the Leadership performance trait. The statistics show that the mean performance trait score for the male targets (*M*s = 3.26) was only slightly higher than the mean performance trait score for the female targets (*M*s = 3.19). However, the mean performance trait score for the attractive targets (*M*s = 3.29) was much higher than the mean performance trait score for the unattractive targets (*M*s = 3.17).

Table 16. Descriptive Statistics for Primary Study Ratings of Target Midshipmen on the Leadership Trait

	Mean	*SD*	N
Attractive Male	3.33	.692	33
Unattractive Male	3.19	.577	36
Males	3.26	.634	69
Attractive Female	3.24	.561	33
Unattractive Females	3.14	.639	36
Females	3.19	.601	69
Attractive	3.29	.627	66
Unattractive	3.17	.605	72

Figure 14 is a graphical depiction of the interactive effects of sex and attractiveness on the assessment of leadership skills. It shows that the attractive targets were evaluated to possess and demonstrate much more leadership (*M*s = 3.33, attractive male; *M*s = 3.24, attractive female) than their unattractive counterparts (*M*s = 3.19, unattractive male; *M*s = 3.14, unattractive female)

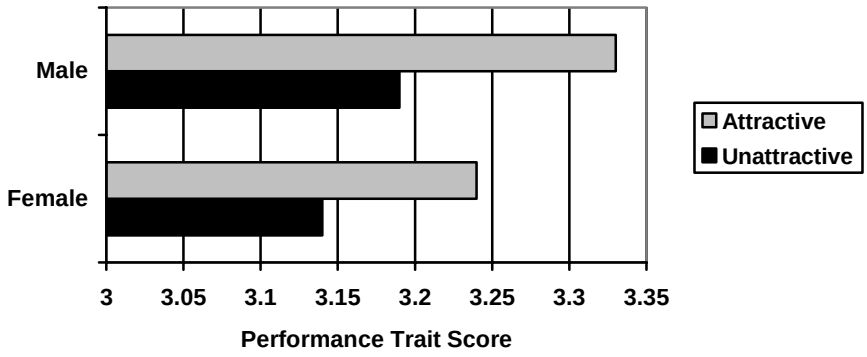

Figure 14. Interactive Effects of Attractiveness and Sex on Primary Study Ratings of Target Midshipmen on the Leadership Trait.

Figure 15 is a graphical depiction of the individual effects of sex and attractiveness on the assessment of leadership skills. It also shows that the attractive targets were evaluated as demonstrating much more leadership skills (*M*s = 3.29) than the unattractive targets (*M*s = 3.17). Additionally, it shows that the male targets were

evaluated as demonstrating slightly more leadership skills (*M*s = 3.26) than the female targets (*M*s = 3.19).

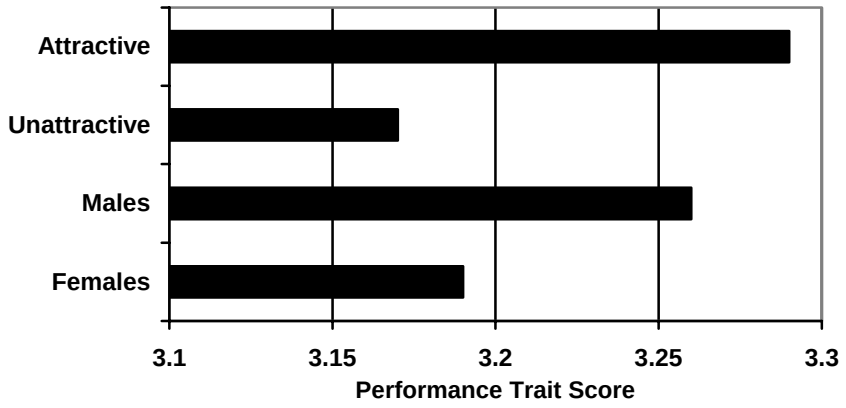

Figure 15. Individual Effects of Attractiveness and Sex on Primary Study Ratings of Target Midshipmen on the Leadership Trait.

h. Trait Average

The eighth ANOVA analyzed the overall effects of target sex and attractiveness on the targets' computed trait averages. Oftentimes, raters adjust individual performance trait scores to attain a specific trait average. Therefore, this analysis was performed to analyze the effects of target sex and attractiveness on the final performance evaluation grade assigned. Table 17 lists the analysis results and shows the significant effect of target attractiveness on the trait average.

Table 17. Analysis of Variance Summary for the Primary Study Performance Evaluation Trait Averages

	df	*SS*	*F*	η^2	*p*
Sex (S)	1	.000	.004	.000	.952
Attractiveness (A)	1	.520	5.804	.042	.017
S X A	1	.171	1.913	.014	.169
Error	134	11.996	(.090)		
Total	138	1617.306	--		

Notes: Sex = Target Sex – male or female; Attractiveness = Target Attractiveness – attractive or unattractive. Value enclosed in parentheses represents the mean square error.

Table 18 shows the descriptive statistics for the analysis of the trait average. It is interesting to note that the mean trait average score for the male targets (*M*s = 3.41) is equal to the mean trait average score for the female targets (*M*s = 3.41), but the mean trait average score for the attractive targets (*M*s = 3.47) is higher than the mean trait average score for the unattractive targets (*M*s = 3.35).

Table 18. Descriptive Statistics for the Primary Study Performance Evaluation Trait Averages

	Mean	*SD*	N
Attractive Male	3.4372	.34982	33
Unattractive Male	3.3849	.23860	36
Males	3.4099	.29894	69
Attractive Female	3.5108	.31141	33
Unattractive Females	3.3175	.29199	36
Females	3.4099	.31462	69
Attractive	3.4740	.33070	66
Unattractive	3.3512	.26682	72

Figure 16 is a graphical depiction of the interactive effects of sex and attractiveness on the assigned trait average score. It shows that the attractive female target received the highest trait average score (*M*s = 3.51) while the unattractive female target received the lowest trait average score (*M*s = 3.32). However, the graph also shows that the attractive male target received a trait average score only slightly higher (*M*s = 3.44) than the unattractive male (*M*s = 3.38).

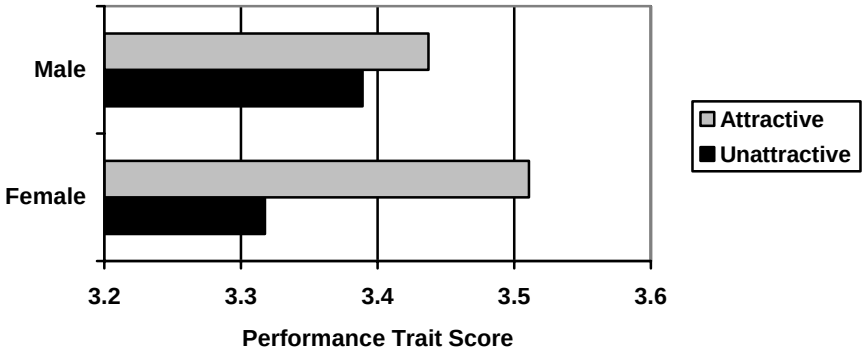

Figure 16. Interactive Effects of Attractiveness and Sex on the Primary Study Performance Evaluation Trait Averages of Target Midshipmen.

Figure 17 is a graphical depiction of the individual effects of sex and attractiveness on the trait average score. It shows that the attractive targets were provided much higher trait average scores (*M*s = 3.47) than the unattractive targets (*M*s = 3.35). Additionally, it shows that male targets and female targets were provided identical trait average scores (*M*s = 3.41). Thus, attractiveness of the target significantly influenced the trait average score, but sex of the target did not.

Figure 17. Individual Effects of Attractiveness and Sex on Primary Study Performance Evaluation Trait Averages of Target Midshipmen.

3. Assessment Questionnaire – Perception Items

A principal axes factor analysis was performed on the first four questionnaire items (concern for success, effectiveness, friendliness, and sociability). A Kaiser-Meyer-

Olkin (KMO) and Bartlett's test yielded a KMO measure of sampling adequacy of .683. Based on a rotated factor matrix, two factors were retained and rotated to an orthogonal structure by means of the varimax procedure. These two factors accounted for 57.5% and 20.8% of the variance, respectively. Items that loaded higher than .50 on one factor and loaded less than .50 on the other factor were used to represent the factor. Factor 1 was labeled WARMTH and included the following items: friendliness and sociability. A reliability analysis of the WARMTH variables computed an alpha of .8131. Factor 2 was labeled ABILITY and included the following items: concern for success and effectiveness. A reliability analysis of the ABILITY variables computed an alpha of .5349. Factor indices were computed for each factor by summing the appropriate items that were selected to represent the factors.

a. Ability

The ninth ANOVA analyzed the individual and interactive effects of target sex and attractiveness on the assessed level of ability possessed by the target. Table 19 lists the analysis results and shows the effects of sex and attractiveness on the assessed ability to be nonsignificant. The interactive effect of sex and attractiveness only approaches significance ($p = .082$).

Table 19. Analysis of Variance Summary for Primary Study Ratings of Target Midshipmen on their Ability

	Df	*SS*	*F*	η^2	*p*
Sex (S)	1	1.076	.266	.002	.607
Attractiveness (A)	1	.002	.000	.000	.982
S X A	1	12.438	3.076	.022	.082
Error	134	541.763	(4.043)		
Total	138	25410.000	--		

Notes: Sex = Target Sex – male or female; Attractiveness = Target Attractiveness – attractive or unattractive. Value enclosed in parentheses represents the mean square error.

Table 20 lists the descriptive statistics for the analysis of the Ability factor. The statistics show that the mean factor score for the male targets (*M*s = 13.52) was higher than the mean factor score for the female targets (*M*s = 13.32), but the mean factor score for the attractive targets (*M*s = 13.42) was identical to the mean factor score for the unattractive targets (*M*s = 13.42). Therefore, the sex of the target did influence the assessment of ability and caused the males to be assessed as possessing more ability than the females. However, the attractiveness of the target did not influence the assessment of ability.

Table 20. Descriptive Statistics for Primary Study Ratings of Target Midshipmen on their Ability

	Mean	*SD*	N
Attractive Male	12.76	2.450	33
Unattractive Male	11.11	2.162	36
Males	11.90	2.432	69
Attractive Female	12.91	2.097	33
Unattractive Females	11.25	2.347	36
Females	12.04	2.367	69
Attractive	12.83	2.264	66
Unattractive	11.18	2.241	72

Figure 18 is a graphical depiction of the interactive effects of sex and attractiveness on the assessment of ability possessed by the target. It shows that the attractive male was assessed to possess less ability (*M*s = 13.21) than the unattractive male (*M*s = 13.81), whereas the attractive female was assessed to possess more ability (*M*s = 64) than the unattractive female (*M*s = 13.03). Additionally, it shows that the unattractive male was assessed to possess a much higher level of ability (*M*s = 13.81) than the unattractive female (*M*s = 13.03).

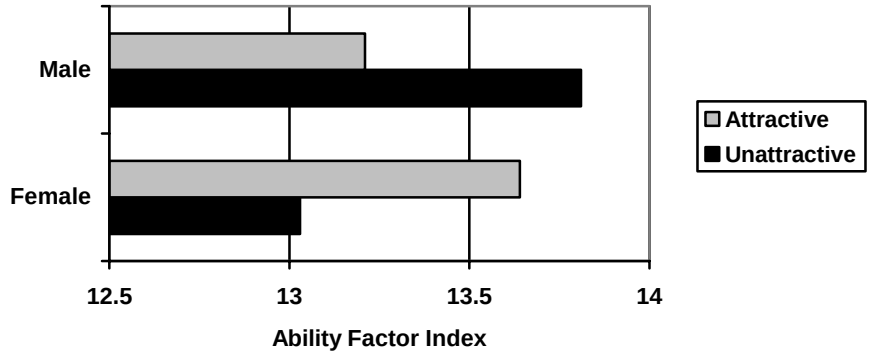

Figure 18. Interactive Effects of Attractiveness and Sex on Primary Study Ratings of Target Midshipmen on the Ability Factor Index.

Figure 19 is a graphical depiction of the individual effects of sex and attractiveness on the assessment of ability possessed by the target. It shows that the attractive targets were assessed as possessing an identical level of ability as the unattractive targets (*M*s = 13.42). However, it shows that the male targets were assessed as possessing a much higher level of ability (*M*s = 13.52) than the female targets (*M*s = 13.32). Therefore, sex of the target did affect the assessment of ability, but the attractiveness of the target did not.

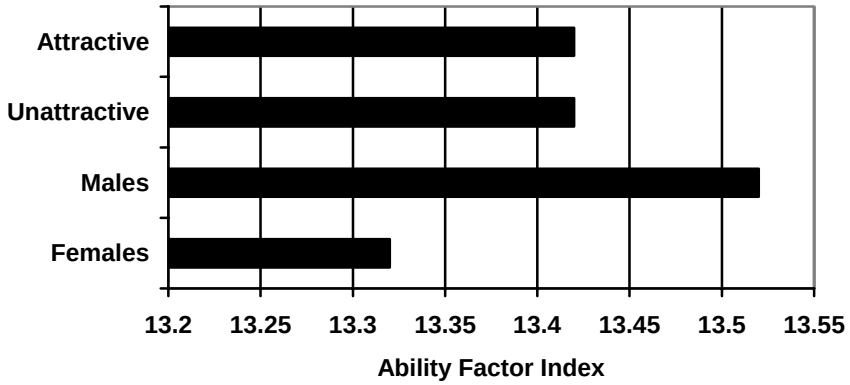

Figure 19. Individual Effects of Attractiveness and Sex on Primary Study Ratings of Target Midshipmen on the Ability Factor Index.

b. Warmth

The tenth ANOVA analyzed the effects of target sex and attractiveness on the participants' assessment of the targets' social skills. Table 21 lists the analysis results and shows that the effect of attractiveness on the assessment was significant ($p \leq .001$).

Table 21. Analysis of Variance Summary for Primary Study Ratings of Target Midshipmen on their Warmth / Likeability / Social Skills

	df	*SS*	*F*	η^2	*p*
Sex (S)	1	.726	.141	.001	.708
Attractiveness (A)	1	94.065	18.292	.120	.000
S X A	1	.001	.000	.000	.987
Error	134	689.093	(5.142)		
Total	138	20560.000	--		

Notes: Sex = Target Sex – male or female; Attractiveness = Target Attractiveness – attractive or unattractive. Value enclosed in parentheses represents the mean square error.

Table 22 shows the descriptive statistics for the analysis of the Warmth factor. The mean factor score for the male targets (*M*s = 11.90) was only slightly lower than the mean factor score for the female targets (*M*s = 12.04), but the mean factor score for the attractive targets (*M*s = 12.83) was much higher than the mean factor score for the unattractive targets (*M*s = 11.18). Therefore, the sex of the target did not influence the social evaluation, but the attractiveness of the target significantly influenced it.

Table 22. Descriptive Statistics for Primary Study Ratings of Target Midshipmen on their Warmth / Likeability / Social Skills

	Mean	*SD*	N
Attractive Male	12.76	2.450	33
Unattractive Male	11.11	2.162	36
Males	11.90	2.432	69
Attractive Female	12.91	2.097	33
Unattractive Females	11.25	2.347	36
Females	12.04	2.367	69
Attractive	12.83	2.264	66
Unattractive	11.18	2.241	72

Figure 20 is a graphical depiction of the interactive effects of sex and attractiveness on the social evaluation. It shows that both the attractive male target (*M*s = 12.76) and the attractive female target (*M*s = 12.91) were assessed as possessing much better social skills than the unattractive targets (*M*s ≤ 11.25).

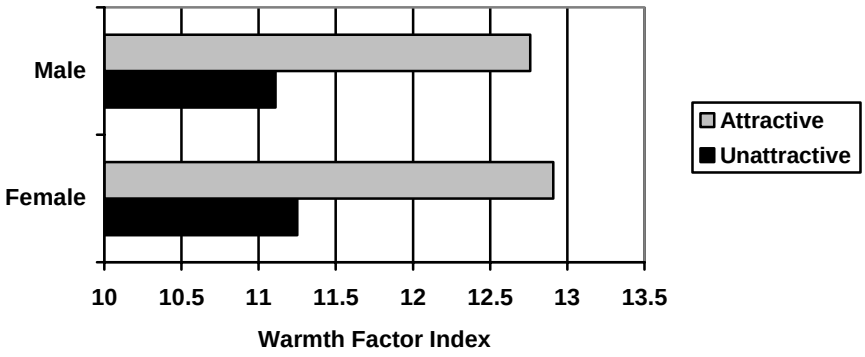

Figure 20. Interactive Effects of Attractiveness and Sex on Primary Study Ratings of Target Midshipmen on their Warmth / Likeability / Social Skills.

Figure 21 is a graphical depiction of the individual effects of sex and attractiveness on the social evaluation of the targets. It shows that the attractive targets were assessed as possessing much more social skills (*M*s = 12.83) than the unattractive targets (*M*s = 11.18). Additionally, it shows that the male targets and female targets were assessed as possessing nearly the same level of social skills (*M*s = 11.90, males; *M*s =

12.04, females). Therefore, sex of the target did not affect the assessment of social skills, but the attractiveness of the target did.

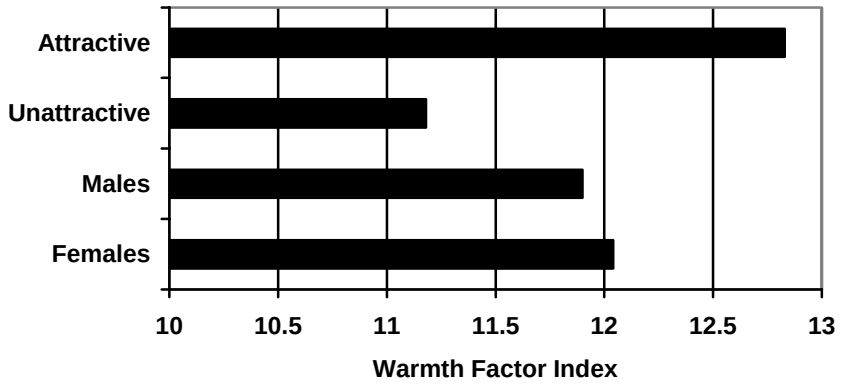

Figure 21. Individual Effects of Attractiveness and Sex on Primary Study Ratings of Target Midshipmen on their Warmth / Likeability / Social Skills.

4. Assessment Questionnaire – Recommended Leadership Position

The eleventh ANOVA analyzed the individual and interactive effects of target sex and attractiveness on the assessed leadership potential possessed by the target. This question was added to the questionnaire later in the study. As a result, only 103 participants provided data for this question. After all female data was excluded from the study, a total of 89 participants provided data for this question. Table 23 lists the analysis results and shows that the effects of sex and attractiveness on the assessment were nonsignificant.

Table 23. Analysis of Variance Summary for Primary Study Ratings of Recommended Leadership Positions for the Target Midshipmen

	df	*SS*	*F*	η^2	*p*
Sex (S)	1	.001	.001	.000	.973
Attractiveness (A)	1	1.812	2.581	.029	.112
S X A	1	.064	.091	.001	.764
Error	134	59.658	(.702)		
Total	138	328.000	--		

Notes: Sex = Target Sex – male or female; Attractiveness = Target Attractiveness – attractive or unattractive. Value enclosed in parentheses represents the mean square error.

Table 24 shows the descriptive statistics for the analysis of the leadership position recommendations. It shows that the mean leadership position recommendation for the male targets (*M*s = 1.73) was identical to the mean leadership position recommendation for the female targets (*M*s = 1.73), but the mean leadership position recommendation for the attractive targets (*M*s = 1.88) was much higher than the mean leadership position recommendation for the unattractive targets (*M*s = 1.60). Therefore, the attractive targets were recommended for higher positions of leadership more often than the unattractive targets.

Table 24. Descriptive Statistics for Primary Study Ratings of Recommended Leadership Positions for the Target Midshipmen

	Mean	*SD*	N
Attractive Male	1.86	1.062	21
Unattractive Male	1.62	.576	24
Males	1.73	.837	45
Attractive Female	1.90	.700	21
Unattractive Females	1.57	.945	23
Females	1.73	.845	44
Attractive	1.88	.889	42
Unattractive	1.60	.771	47

Figure 22 is a graphical depiction of the interactive effects of sex and attractiveness on the assessed leadership potential possessed by the target. It graphically shows that both the attractive male target (*M*s = 1.86) and the attractive female target (*M*s = 1.90) were recommended for higher leadership positions more often than the unattractive targets (*M*s = 1.62, unattractive males; *M*s = 1.57, unattractive females).

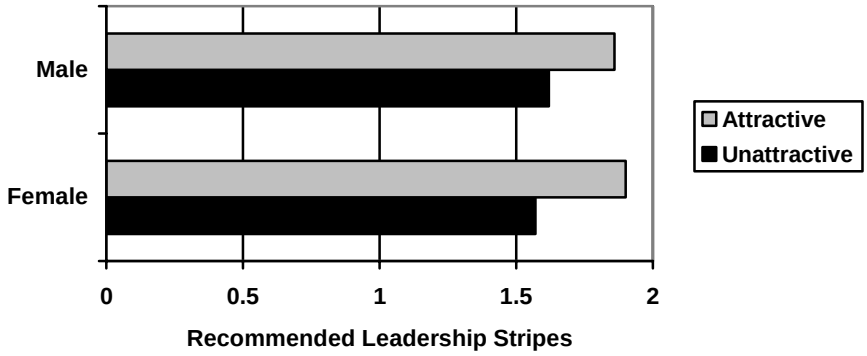

Figure 22. Interactive Effects of Attractiveness and Sex on Primary Study Ratings of Recommended Leadership Positions for the Target Midshipmen.

Figure 23 is a graphical depiction of the individual effects of sex and attractiveness on the assessment of the leadership potential possessed by the target. It shows that the attractive targets were recommended for higher leadership positions more often (*M*s = 1.88) than the unattractive targets (*M*s = 1.60). Additionally, it shows that the male targets and female targets were recommended for the same levels of leadership positions at the same frequency.

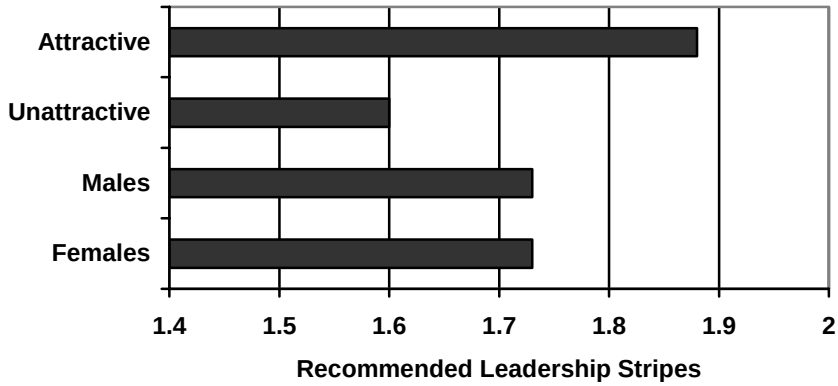

Figure 23. Individual Effects of Attractiveness and Sex on Primary Study Ratings of Recommended Leadership Positions for the Target Midshipmen.

5. Correlational Analyses of Perception Factors

The major dependent variable, the evaluation trait average, and the seven trait averages were correlated with the perceived attractiveness of the targets, the sex of the targets, the ability index, the social evaluation index, and the recommended leadership

rank. The correlations, listed in Table C-12, show that on five of the seven evaluation performance traits, the social evaluation (WARMTH) was more highly correlated than the assessed ability of the target (ABILITY) and attractiveness of the target (Attractiveness). Specifically, the social evaluation was more influential on the assessment of the targets' quality of work ($r = .185$, $p < .05$), contributions towards equal opportunity and a positive command climate ($r = .285$, $p < .01$), initiative ($r = .281$, $p < .01$), teamwork ($r = .252$, $p < .01$), and leadership ($r = .386$, $p < .01$). Additionally, the social evaluation was more highly correlated ($r = .483$, $p < .01$) with the overall trait average than the targets' assessed ability ($r = .418$, $p < .01$) and attractiveness ($r = .359$, $p < .01$). The perceived ability of the target was most highly correlated on only two variables, military bearing ($r = .376$, $p < .01$) and recommended leadership position($r = .407$, $p < .01$). Therefore, the statistics suggest that the assessed level of social skills and/or likeability influenced the perception of the target midshipman more than the targets ability or attractiveness.

THIS PAGE INTENTIONALLY LEFT BLANK

V. CONCLUSIONS

A. INTRODUCTION

This study focused on assessing the influences of physical attractiveness and sex/gender on the Naval Academy's midshipman performance evaluations. Specifically, the study analyzed performance evaluation scores provided by senior-ranking midshipmen who were tasked with formally evaluating either male or female midshipmen who possessed identical levels of performance, but varying levels of attractiveness. Each evaluation category (or performance trait) was analyzed to determine which categories, if any, are affected by raters' biases or perceptions. This information may prove educational to Naval Academy faculty, staff, and midshipmen regarding the existence, and possible consequences, of perception biases at the United States Naval Academy.

B. CONCLUSIONS

Results from the data analyses in Chapter IV revealed that attractiveness and sex influence performance ratings of midshipman at the Naval Academy. However, these effects vary as a function of the performance domain. As a result, the first hypothesis, that midshipmen who are perceived as physically attractive are evaluated differently than midshipmen who are perceived as physically unattractive, received partial support. Additionally, the second hypothesis, that female midshipmen are evaluated differently than male midshipmen, was supported.

1. Influences of Physical Attractiveness and Sex on Midshipman Performance Evaluations

The following is a summary of this study's major findings regarding the impact of perception and bias on the individual performance categories examined in midshipman performance evaluations:

- Neither attractiveness nor sex was found to influence ratings of Professional Knowledge.

- Examination of the interaction between attractiveness and sex on Quality of Work ratings was significant. Attractiveness had a significant positive effect on rating of "Quality of Work" for women but the opposite effect for men.
- Examination of the interaction between attractiveness and sex on Equal Opportunity ratings was significant. Attractiveness had a significant positive effect for women's ratings of "Climate/Equal Opportunity" but the opposite effect for men.
- Neither attractiveness nor sex was found to influence ratings of Military Bearing/Character.
- Examination of main effects of attractiveness on Job Accomplishment/Initiative ratings was significant. Attractive midshipmen were assessed as displaying more initiative and ability to accomplish tasks than unattractive midshipmen.
- Neither attractiveness nor sex was found to influence ratings of Teamwork.
- Neither attractiveness nor sex was found to influence ratings of Leadership.
- Examination of main effects of attractiveness on the Trait Average was significant. Attractive midshipmen were assigned slightly higher Trait Averages than unattractive midshipmen, thus the attractive midshipmen received more favorable performance evaluations.

2. Influences of Physical Attractiveness and Sex on Professional and Social Perceptions

The following is a summary of this study's major findings regarding the perceptions formed based on sex and physical attractiveness:

- Neither attractiveness nor sex was found to influence the assessment of a midshipman's ability.
- Neither attractiveness nor sex was found to influence the assessment of a midshipman's leadership potential.
- Examination of main effects of attractiveness on social perception was significant. Specifically, attractive midshipmen were perceived as more approachable and

likeable than unattractive midshipmen. Therefore, the results suggest that attractive midshipmen are perceived as more likeable and socially adept than unattractive midshipmen.

Past research has found that attractive people are generally perceived as more competent and successful than unattractive people (Chung & Leung, 1988; Jackson, 1995; Mazur, 1984). Past research has also found that men are typically perceived as more competent than women, particularly in an environment such as a military academy (Biernat & Fuegen, 2001; Carli, 1999; Harrison & Rainer, 1988). Therefore, the results concerning ability assessment were somewhat surprising. They may be an indication that the Naval Academy's substantial amount of training concerning perception, gender equality, and fair treatment is proving successful. However, other plausible explanations do exist, such as the relatively small sample size and range restriction. The sample size of 138 male midshipmen represents only a small percentage (approximately 3% of the Naval Academy's total midshipman population. A larger sample size would generate greater power and thus produce results more similar to the findings of other research. Another plausible explanation is the range restriction of the evaluation scores. The participants were required to rate a midshipman who was presented as an average performer. The evaluation rating scale is limited to a 5-point scale; therefore, rating an average performer only limits the available scale even more.

Conversely, the results concerning social perceptions were as expected. Therefore, the results of this study support the findings of past research that suggest that attractive individuals are perceived to be more likeable and socially adept than unattractive individuals (Brown, 1986; Chung & Leung, 1988; Jackson, 1995; Mulford, 1998). Analyses revealed that perceived social skills were significantly correlated with both perceived attractiveness and 7 out of 8 performance traits (including the Trait Average). The findings suggest that the perceived social advantage granted to the attractive midshipmen indirectly influences their advantage in the performance evaluation system. Specifically, the interactive effects of attractiveness and likeability may give attractive midshipmen an advantage that unattractive midshipmen lack. Indeed, the attractive midshipmen may be evaluated more favorably because they are perceived as both attractive and likeable. Because the midshipmen being evaluated in this study were

complete strangers to the raters, the resultant advantage granted to the attractive midshipmen must be solely attributable to their good looks.

C. RECOMMENDATIONS

The purpose of this study was to provide Naval Academy personnel, civilian and military, with an increased awareness of the existence of perception biases amongst midshipmen. Additionally, this study was conducted to demonstrate the possible impacts such biases can have on the professional evaluation, development, and quality of life of some midshipmen.

The small number of female participants necessitated that this study focus solely on the perception biases of male midshipmen. As a result, the significant findings of this study are only applicable to male midshipmen. Nevertheless, the study revealed areas of the performance evaluation system that can be changed to increase the utility of the evaluation scores assigned by midshipmen.

First, midshipmen need to receive better training on the proper use of performance evaluation forms. Results from both the study and informal conversations with midshipmen and staff suggest that little or no standardization is taught regarding the scoring of a performance evaluation. As a result, inconsistent evaluation practices exist, and midshipmen assign evaluation scores based on different things. For instance, one midshipman may view a subordinate who barely meets Naval Academy standards as an average performer and assign a Trait Average score of 3.0; according to the evaluation form, this score should be assigned to a person who meets the standards. However, another midshipman may view the same subordinate as a slightly below average performer and assign a Trait Average score of 2.0; according to the evaluation form, this score should be assigned to a person who is progressing towards the standards. Such inconsistencies may reflect that midshipmen neither understand nor agree on the Naval Academy standards. Nevertheless, the inconsistencies complicate performance comparisons of different midshipmen when using the evaluation form alone. Although company officers are required to review and adjust the midshipman-assigned evaluation scores, they may only resolve some of the inconsistencies. Currently, the midshipman

performance evaluation forms have ceased to function as a useful performance measurement device. Now, they serve primarily as a training tool for midshipmen.

Second, midshipman evaluator score averages should be added to the midshipman performance evaluation forms. Including the evaluator's score average would better convey the evaluated midshipman's assessed level of performance. It would also enable the performance comparison of midshipmen who were evaluated by different raters. Such a practice is actively employed in the U. S. Navy to grant promotion boards the ability to better compare candidates' performance. Specifically, the Commanding Officer's score average is included on evaluations that he or she completes. This practice has proven extremely successful in the Navy, and it could benefit the Naval Academy significantly.

Third, the Leadership, Ethics, and Law (LEL) Department should add exercises concerning perception biases to the educational curriculum. The course material concerning perception would be even more effective and convincing if it included an exercise similar to this study. Requiring midshipmen to formally evaluate others and analyze their ratings may prove more convincing concerning the power of perception biases. Such a requirement may also educate the midshipmen on their individual biases and enable them to function as better leaders who are more capable of conducting accurate performance evaluations.

D. FUTURE RESEARCH

This study has shown that perception biases do exist at the Naval Academy, and they can significantly impact midshipman performance evaluations. Unfortunately, this study was only successful at analyzing the biases of male midshipmen. Several other factors should be analyzed to provide a more accurate assessment of the existence and influence of such biases on midshipman performance evaluations. Therefore, the following studies should be performed to more fully explore this topic:

- A study to determine the existence and influences of physical attractiveness and sex-based biases within the female midshipman population. The findings of this study may not be applicable to female midshipmen at the Naval Academy.

- A study to determine the existence and influences of physical attractiveness and sex-based biases amongst the Naval Academy company officers. In a realistic situation, the rater usually has regular contact with the person being evaluated and has a knowledgeable impression of his or her performance. The scenario used in this study was not very realistic for a midshipman; however, it may be very realistic for a company officer. Although company officers have limited exposure to their midshipmen, they ultimately determine the final performance grade assigned to each midshipman. Such a study may be more applicable to the Naval Academy and prove extremely educational.
- A study to determine the influences of physical attractiveness and sex-based biases on the Naval Academy's peer ranking system. The peer ranking system requires midshipmen to rank both peers and subordinate midshipmen. Oftentimes, midshipmen are forced to rank others whom they are very unfamiliar with. Such a study could analyze the actual impacts of perception biases on a vital performance measurement tool used by the Naval Academy.

The recommended studies mentioned above would prove extremely beneficial to the Naval Academy staff, faculty, and midshipmen. The results would complement this study and empower the Naval Academy to further improve its training curriculum.

APPENDIX A: PILOT STUDY TABLES

Table A-1. Frequency Statistics of Pilot Study Participants.

Category	Frequency	Percent
Sex		
Male	59	90.8
Female	6	9.2
Age		
18	22	34.9
19	21	33.3
20	4	6.3
21	1	1.6
26	1	1.6
27	3	4.8
28	4	6.3
30	2	3.2
31	1	1.6
32	1	1.6
35	1	1.6
36	1	1.6
37	1	1.6

Note: $N = 65$.

Table A-2. Summary Statistics of Pilot Study Photograph Ratings.

Photograph	Mean	Standard Deviation	Min	Max
Male Photo 1	3.11	1.14	1	7
Male Photo 2	7.11	1.06	3	9
Male Photo 3	6.42	1.16	2	9
Male Photo 4	2.91	1.17	1	6
Male Photo 5	2.95	1.21	1	6
Male Photo 6	7.38	1.33	2	9
Male Photo 7	3.60	1.30	1	7
Male Photo 8	3.97	1.23	1	7
Male Photo 9	1.88	1.23	1	9
Male Photo 10	5.69	1.40	2	9
Male Photo 11	3.12	1.21	1	6
Male Photo 12	6.80	1.35	2	9
Female Photo 1	5.23	1.51	1	9
Female Photo 2	3.42	1.10	1	7
Female Photo 3	1.86	.85	1	4
Female Photo 4	6.80	1.48	1	9
Female Photo 5	1.62	.88	1	6
Female Photo 6	3.35	1.35	1	6
Female Photo 7	7.75	1.30	2	9
Female Photo 8	5.63	1.39	1	8
Female Photo 9	3.91	1.55	1	7
Female Photo 10	7.03	1.45	1	9
Female Photo 11	6.74	1.45	3	9
Female Photo 12	3.37	1.29	1	6

Note: $N = 65$. Min and max = minimum and maximum value, respectively.

APPENDIX B: PRIMARY STUDY TABLES AND STIMULUS MATERIALS

Table B-1. Frequency Statistics of All Primary Study Participants.

Category	Frequency	Percent
Sex		
Male	138	87.3
Female	20	12.7
Age		
19	2	1.3
20	30	19.0
21	65	41.1
22	41	25.9
23	15	9.5
24	2	1.3
25	3	1.9
Rank		
1/C	57	36.1
2/C	101	63.9
Leadership Position (held by first class midshipmen only - during date of study)		
M/CAPT	1	0.6
M/CDR	1	0.6
M/LCDR	1	0.6
M/LT	3	1.9
M/LTJG	19	12.0
M/ENS	19	12.0
MIR	11	7.0
Ethnicity		
White / Caucasian	130	82.2
Black / African American	5	3.2
Hispanic	14	8.8
Asian American	4	2.5
Native American	2	1.2
Other	3	1.8

Note: $N = 158$.

Table B-2. Frequency Statistics of Male Primary Study Participants.

Category	Frequency	Percent
Age		
19	2	1.4
20	25	18.1
21	58	42.0
22	33	23.9
23	15	10.9
24	2	1.4
25	3	2.2
Rank		
1/C	50	36.2
2/C	88	63.8
Leadership Position (held by first class midshipmen only - during date of study)		
M/CDR	1	0.7
M/LCDR	1	0.7
M/LT	3	2.2
M/LTJG	15	10.9
M/ENS	18	13.0
MIR	11	8.0
Ethnicity		
White / Caucasian	114	82.6
Black / African American	5	3.6
Hispanic	12	8.7
Asian American	3	2.1
Native American	2	1.4
Other	2	1.4

Note: $N = 138$.

Student Thesis Research
INFORMED CONSENT FORM

Consent for Voluntary Participation in Thesis Research

1. I, _____, have been asked to voluntarily participate in a U.S. Naval Postgraduate School student thesis research project concerning the midshipman performance evaluation system at the United States Naval Academy. The research is being conducted at the United States Naval Academy, Annapolis, MD.

2. **I understand that my consent to participate is voluntary, and that I am free to ask questions or to withdraw from participation at any time without penalty or disciplinary action.**

Purpose. The purpose of this research project is to satisfy a student thesis requirement leading to the award of a Masters of Science in Leadership and Human Resource Development from the U.S. Naval Postgraduate School. The thesis will examine the limitations of the midshipman performance evaluation system and the evaluation grades provided by senior-ranking midshipmen. The goal is to provide educational information concerning the performance evaluation system and offer training recommendations to educate both midshipmen and faculty.

Participation. My participation in this research will consist of reading background material, completing a blank performance evaluation, and completing a survey designed to measure factors that are often influential concerning evaluation marks. The procedure will involve 5 minutes of instructional briefing, followed by 10 minutes to complete the evaluation and survey. I understand that there are no risks to my health from participating in this study.

Confidentiality. To the extent permitted by law, all information collected in the study is confidential, and my name will not be identified at any time. I understand that the data I provide will be maintained by LT Mario Wilson, and will be grouped with data provided by other participants for analysis and presentation as part of the final student thesis.

Rights. I understand that I must be given a copy of this consent form for my records.

Name of Principal Investigator: LT Mario N. Wilson, USN
mnwilson@usna.edu
LEAD Program USNPS
(410) 293-6543

Signature of Participant: _____

Date: _____

INSTRUCTIONS

Scenario

You are a senior-level midshipman (1/C or 2/C). You have recently been assigned to a new squad within the company in order to replace a sub-standard performing peer. Your peer has been demoted from squad leader to a midshipman in ranks, and you are now the new squad leader.

It is now the end of the academic year, and you have been tasked with providing the semester performance evaluation for one of the 3/C midshipmen in your squad. Unfortunately, the only information you have concerning the midshipman's recent performance is a "Summary of Performance" sheet provided by the peer that you replaced.

Carefully follow the instructions below:

1. Read the "Summary of Performance."

2. Read the midshipman's previous evaluation.

3. Complete the blank evaluation.

- Place an **"X"** in the appropriate block (1.0 to 5.0) for each performance trait.
- Complete only the 7 performance traits.
- DO NOT MARK ANYWHERE ELSE ON THE EVAL!

4. Complete the questionnaire provided.

15 May 2001

Summary of Performance for MIDN 3/C TAYLOR

Major: Political Science

Cum AQPR: 2.78

Cum MQPR: 3.0

PRT SCORE: 84% (“B”)

ROOM INSPECTIONS: EXCELLENT

UNIFORM INSPECTIONS: EXCELLENT

Attractive Female Photo

Overall, 3/C Taylor has demonstrated an average level of performance for a Youngster, maintaining the same level of performance and participation as in the fall semester. Her Academic QPR has improved slightly (+0.01), and her Military QPR has remained unchanged (3.0).

Despite her somewhat average performance, she tries constantly to improve. Her uniform and room standards have consistently been excellent, and she has received zero conduct offences. She is somewhat reserved and soft-spoken, however she manages to provide a great deal of input to the squad. She has maintained a positive attitude and a willingness to do activities with the squad.

She has also continued to show a dedicated effort at developing the plebes. With her guidance, the plebes in her squad have maintained “A” averages on all of their professional knowledge tests.

She has remained an active member of the Cycling Club and continued to participate in company intramural sports. She has also managed to contribute to the community by participating in a few of the events sponsored by the Protestant Midshipmen Club.

15 May 2001

Summary of Performance for MIDN 3/C HAMILTON

Major: Political Science

AQPR: 2.78

MQPR: 3.0

PRT SCORE: 84% (“B”)

ROOM INSPECTIONS: EXCELLENT

UNIFORM INSPECTIONS: EXCELLENT

Attractive Male Photo

Overall, 3/C Hamilton has demonstrated an average level of performance for a Youngster, maintaining the same level of performance and participation as in the fall semester. His Academic QPR has improved slightly (+0.01), and his Military QPR has remained unchanged (3.0).

Despite his somewhat average performance, he tries constantly to improve. His uniform and room standards have consistently been excellent, and he has received zero conduct offences. He is somewhat reserved and soft-spoken, however he manages to provide a great deal of input to the squad. He has maintained a positive attitude and a willingness to do activities with the squad.

He has also continued to show a dedicated effort at developing the plebes. With his guidance, the plebes in his squad have maintained “A” averages on all of their professional knowledge tests.

He has remained an active member of the Cycling Club and continued to participate in company intramural sports. He has also managed to contribute to the community by participating in a few of the events sponsored by the Protestant Midshipmen Club.

15 May 2001

Summary of Performance for MIDN 3/C TAYLOR

Major: Political Science

AQPR: 2.78

MQPR: 3.0

PRT SCORE: 84% (“B”)

ROOM INSPECTIONS: EXCELLENT

UNIFORM INSPECTIONS: EXCELLENT

Unattractive Female Photo

Overall, 3/C Taylor has demonstrated an average level of performance for a Youngster, maintaining the same level of performance and participation as in the fall semester. Her Academic QPR has improved slightly (+0.01), and her Military QPR has remained unchanged (3.0).

Despite her somewhat average performance, she tries constantly to improve. Her uniform and room standards have consistently been excellent, and she has received zero conduct offences. She is somewhat reserved and soft-spoken, however she manages to provide a great deal of input to the squad. She has maintained a positive attitude and a willingness to do activities with the squad.

She has also continued to show a dedicated effort at developing the plebes. With her guidance, the plebes in her squad have maintained “A” averages on all of their professional knowledge tests.

She has remained an active member of the Cycling Club and continued to participate in company intramural sports. She has also managed to contribute to the community by participating in a few of the events sponsored by the Protestant Midshipmen Club.

15 May 2001

Summary of Performance for MIDN 3/C HAMILTON

Major: Political Science

AQPR: 2.78

MQPR: 3.0

PRT SCORE: 84% (“B”)

ROOM INSPECTIONS: EXCELLENT

UNIFORM INSPECTIONS: EXCELLENT

Unattractive Male Photo

Overall, 3/C Hamilton has demonstrated an average level of performance for a Youngster, maintaining the same level of performance and participation as in the fall semester. His Academic QPR has improved slightly (+0.01), and his Military QPR has remained unchanged (3.0).

Despite his somewhat average performance, he tries constantly to improve. His uniform and room standards have consistently been excellent, and he has received zero conduct offences. He is somewhat reserved and soft-spoken, however he manages to provide a great deal of input to the squad. He has maintained a positive attitude and a willingness to do activities with the squad.

He has also continued to show a dedicated effort at developing the plebes. With his guidance, the plebes in his squad have maintained “A” averages on all of their professional knowledge tests.

He has remained an active member of the Cycling Club and continued to participate in company intramural sports. He has also managed to contribute to the community by participating in a few of the events sponsored by the Protestant Midshipmen Club.

EVALUATION REPORT & COUNSELING RECORD (E1-E6)

RCS BUPERS 1610-1

1. Name (Last, First MI Suffix)	2. Rate	3. Desig	4. SSN
TAYLOR, KIRSTEN W	M3/C	036704	425-32-8954

5. ACT	TAR	INACT	AT/ADSW/ 265	6. UIC	7. Ship/Station	8. Promotion Status	9. Date Reported
X				00161	USNA ANNAPOLIS, MD	N/A	99JUN30

Occasion for Report 10. Periodic	11. Detachment of Individual	12. Promotion/ Frocking	13. Special	Period of Report 14. From:	15. To:
X				00AUG18	00DEC18

16. Not Observed Report	Type of Report 17. Regular	18. Concurrent	20. Physical Readiness	21. Billet Subcategory (if any)
	X		I/A	NA

22. Reporting Senior (Last, FI MI)	23. Grade	24. Desig	25. Title	26. UIC	27. SSN
HOWARD, K M	LT	1320	21ST CO OFF	00161	453-12-5539

28. Command employment and command achievements.
MIDN TRAINING

29. Primary/Collateral/Watchstanding duties. (Enter primary duty abbreviation in box.)
3/C MIDN WATCH: CMOD-4.

For Mid-term Counseling Use. (When completing EVAL, enter 30 and 31 from counseling worksheet, sign 32.)	30. Date Counseled	31. Counselor	32. Signature of Individual Counseled
	03NOV10	SMITH, J	Kirsten Taylor

PERFORMANCE TRAITS: 1.0 - Below standards/not progressing or UNSAT in any one standard; 2.0 - Does not yet meet all 3.0 standards; 3.0 - Meets all 3.0 standards; 4.0 - Exceeds most 3.0 standards; 5.0 - Meets overall criteria and most of the specific standards for 5.0. Standards are not all inclusive.

PERFORMANCE TRAITS	1.0* Below Standards	2.0 Pro-gressing	3.0 Meets Standards	4.0 Above Standards	5.0 Greatly Exceeds Standards
33. PROFESSIONAL KNOWLEDGE: Technical knowledge and practical application	- Marginal knowledge of rating, specialty or job. - Unable to apply knowledge to solve routine problems. - Fails to meet advancement/PQS requirements.	- - -	- Strong working knowledge of rating, specialty and job. - Reliably applies knowledge to accomplish tasks. - Meets advancement/PQS requirements on time.	- -	- Recognized expert, sought out by all for technical knowledge. - Uses knowledge to solve complex technical problems. - Meets advancement/PQS requirements early/with distinction
NOB			X		
34. QUALITY OF WORK: Standard of work; value of end product.	- Needs excessive supervision. - Product frequently needs rework. - Wasteful of resources.	- - -	- Needs little supervision. - Produces quality work. Few errors and resulting rework. - Uses resources efficiently.	- - -	- Needs no supervision. - Always produces exceptional work. No rework required. - Maximizes resources.
NOB			X		
35. COMMAND OR ORGANIZATIONAL CLIMATE/EQUAL OPPORTUNITY: Contributing to growth and development, human worth, community.	- Actions counter to Navy's retention/ reenlistment goals. - Uninvolved with mentoring or professional development of subordinates. - Actions counter to good order and discipline and negatively affect Command/ Organizational climate. - Demonstrates exclusionary behavior. Fails to value differences from cultural diversity.	- - - -	- Positive leadership supports Navy's increased retention goals. Active in decreasing attrition. - Actions adequately encourage/support subordinates' personal/professional growth. - Demonstrates appreciation for contributions of Navy personnel. Positive influence on Command climate. - Values differences as strengths. Fosters atmosphere of acceptance/inclusion per EO/EEO policy.	- - - -	- Measurably contributes to Navy's increased retention and reduced attrition objectives. - Proactive leader/exemplary mentor. Involved in subordinates' personal development leading to professional growth/sustained commitment. - Initiates support programs for military, civilian, and families to achieve exceptional Command and Organizational climate. - The model of achievement. Develops unit cohesion by valuing differences as strengths.
NOB			X		
36. MILITARY BEARING/ CHARACTER: Appearance, conduct physical fitness, adherance to Navy Core Values.	- Consistently unsatisfactory appearance. - Poor self-control; conduct resulting in disciplinary action. - Unable to meet one or more physical readiness standards. - Fails to live up to one or more Navy Core Values: HONOR, COURAGE, COMMITMENT.	- - - -	- Excellent personal appearance. - Excellent conduct conscientiously complies with regulations. - Complies with physical readiness program. - Always lives up to Navy Core Values: HONOR, COURAGE, COMMITMENT.	- - - -	- Exemplary personal appearance. - Model of conduct, on and off duty. - A leader in physical readiness. - Exemplifies Navy Core Values: HONOR, COURAGE, COMMITMENT.
NOB			X		
37. PERSONAL JOB ACCOMPLISHMENT/ INITIATIVE: Responsibility, quantity of work.	- Needs prodding to attain qualification or finish job. - Prioritizes poorly. - Avoids responsibility.	- - -	- Productive and motivated. Completes tasks and qualifications fully and on time. - Plans/prioritizes effectively. - Reliable, dependable, willingly accepts responsibility.	- - -	- Energetic self-starter. Completes tasks or qualifications early, far better than expected. - Plans/prioritizes wisely and with exceptional foresight. - Seeks extra responsibility and takes on the hardest jobs.
NOB			X		

NAVPERS 1616/26 (03-02)

EVALUATION REPORT & COUNSELING RECORD (E1-E6) (cont 'd)

RCS BUPERS 1610-1

1. Name (Last, First MI Suffix)	2. Rate	3. Desig	4. SSN
TAYLOR, KIRSTEN W	M3/C	036704	425-32-8954

PERFORMANCE TRAITS	1.0* Below Standards	2.0 Pro-gressing	3.0 Meets Standards	4.0 Above Standards	5.0 Greatly Exceeds Standards
38. TEAMWORK: Contributions to team building and team results NOB ☐	- Creates conflict, unwilling to work with others, puts self above team. - Fails to understand team goals or teamwork techniques. - Does not take direction well.	-	- Reinforces others' efforts, meets commitments to team. - Understands goals, employs good teamwork techniques. - Accepts and offers team direction.	X	- Team builder, inspires cooperation and progress. - Focuses goals and techniques for teams - The best at accepting and offering team direction.
39. LEADERSHIP: Organizing, motivating and developing others to accomplish goals. NOB ☐	- Neglects growth/development or welfare of subordinates. - Fails to organize, creates problems for subordinates. - Does not set or achieve goals relevant to command mission and vision. - Lacks ability to cope with or tolerate stress. - Inadequate communicator. - Tolerates hazards or unsafe practices	-	- Effectively stimulates growth/development in subordinates. - Organizes successfully, implementing process improvements and efficiencies. - Sets/achieves useful, realistic goals that support command mission. - Performs well in stressful situations - Clear, timely communicator. - Ensures safety of personnel and equipment.	X	- Inspiring motivator and trainer, subordinates reach highest level of growth and development. - Superb organizer, great foresight, develops process improvements and efficiencies. - Leadership achievements dramatically further command mission and vision. - Perseveres through the toughest challenges and inspires others. - Exceptional communicator. - Makes subordinates safety-conscious, maintains top safety record. - Constantly improves the personal and professional lives of others.

40. Individual Trait Avg. total of trait scores divided by number of graded traits.	41. I recommend this individual for (maximum of two): Assignment in Rating, Sea Special Programs, Shore Special Programs, Commissioning Programs, Special Warfare Programs, Rating Instructor Duty, Other. (Be specific)	42. Signature of Rater (Typed Name & Rate): I have evaluated this member against the above performance standards and have forwarded written explanation of marks 1.0 and 5.0.
3.00	SQD LDR	Date:

43. COMMENTS ON PERFORMANCE: * All 1.0 marks, three 2.0 marks, and 2.0 marks in Block 35 must be specifically substantiated in comments. Comments must be verifiable. Font must be 10 or 12 Pitch (10 or 12 point) only. Use upper and lower case.

- Completes her duties as a 3/C efficiently, and has above average room and uniform standards.

- Is a consistent performer in the squad and works hard to develop the 4/C.

- Conducts regular come-arounds and is available when the 4/C need additional guidance.

- Is carrying a 2.77 GPA and received a "B" on the most recent PRT.

- Has tremendous potential to serve as a leader and a role model to both her classmates and her subordinates, but she needs to become more involved.

- Member of the Cycling Club and Protestant Midshipman Club.

44. QUALIFICATIONS/ACHIEVEMENTS - Education, awards, community involvement, etc., during this period.

Promotion Recommendation	NOB	Significant Problems	Progressing	Promotable	Must Promote	Early Promote	47. Retention: Not Recommended ☐ Recommended ☐
45. INDIVIDUAL				X			48. Reporting Senior Address 21ST COMPANY USNA ANNAPOLIS, MD 21402
46. SUMMARY	X	0	2	12	14	8	

49. Signature of Senior Rater (Typed Name & Grade/Rate): I have reviewed the evaluation of this member against these performance standards and have provided written explanation to support the marks of 1.0 and 5.0.	50. Signature of Reporting Senior
Date:	K. M. Howard Summary Group Average: Date: 18 DEC 00

51. Signature of Individual Evaluated. "I have seen this report, been apprised of my performance, and understand my right to submit a statement."	52. Type name, grade,command, UIC, and signature of Regular Reporting Senior on Concurrent Report
I intend to submit a statement. ☐ I do not intend to submit a statement. ☒ Kirsten Taylor Date: 18 DEC 00	Date:

NAVPERS 1616/26 (03-02)

EVALUATION REPORT & COUNSELING RECORD (E1-E6)

RCS BUPERS 1610-1

1. Name (Last, First MI Suffix)	2. Rate	3. Desig	4. SSN
HAMILTON, KYLE W	M3/C	032564	526-45-8107

5. ACT	TAR	INACT	AT/ADSW/ 265	6. UIC	7. Ship/Station	8. Promotion Status	9. Date Reported
X				00161	USNA ANNAPOLIS, MD	N/A	99JUN30

Occasion for Report						Period of Report	
10. Periodic X	11. Detachment of Individual		12. Promotion/ Frocking		13. Special	14. From: 00AUG18	15. To: 00DEC18

16. Not Observed Report	Type of Report 17. Regular X	18. Concurrent	20. Physical Readiness	21. Billet Subcategory (if any)
			I/A	NA

22. Reporting Senior (Last, FI MI)	23. Grade	24. Desig	25. Title	26. UIC	27. SSN
HOWARD, K M	LT	1320	21ST CO OFF	00161	453-12-5539

28. Command employment and command achievements.
MIDN TRAINING

29. Primary/Collateral/Watchstanding duties. (Enter primary duty abbreviation in box.)
3/C MIDN WATCH: CMOD-4.

For Mid-term Counseling Use. (When completing EVAL, enter 30 and 31 from counseling worksheet, sign 32.)	30. Date Counseled	31. Counselor	32. Signature of Individual Counseled
	000CT15	SMITH, J	Kyle Hamilton

PERFORMANCE TRAITS: 1.0 - Below standards/not progressing or UNSAT in any one standard; 2.0 - Does not yet meet all 3.0 standards; 3.0 - Meets all 3.0 standards; 4.0 - Exceeds most 3.0 standards; 5.0 - Meets overall criteria and most of the specific standards for 5.0. Standards are not all inclusive.

PERFORMANCE TRAITS	1.0* Below Standards	2.0 Pro-gressing	3.0 Meets Standards	4.0 Above Standards	5.0 Greatly Exceeds Standards
33. PROFESSIONAL KNOWLEDGE: Technical knowledge and practical application	- Marginal knowledge of rating, specialty or job. - Unable to apply knowledge to solve routine problems. - Fails to meet advancement/PQS requirements.	-	- Strong working knowledge of rating, specialty and job. - Reliably applies knowledge to accomplish tasks. - Meets advancement/PQS requirements on time. X	-	- Recognized expert, sought out by all for technical knowledge. - Uses knowledge to solve complex technical problems. - Meets advancement/PQS requirements early/with distinction
NOB					
34. QUALITY OF WORK: Standard of work; value of end product.	- Needs excessive supervision. - Product frequently needs rework. - Wasteful of resources.	-	- Needs little supervision. - Produces quality work. Few errors and resulting rework. - Uses resources efficiently. X	-	- Needs no supervision. - Always produces exceptional work. No rework required. - Maximizes resources.
NOB					
35. COMMAND OR ORGANIZATIONAL CLIMATE/EQUAL OPPORTUNITY: Contributing to growth and development, human worth, community.	- Actions counter to Navy's retention/ reenlistment goals. - Uninvolved with mentoring or professional development of subordinates. - Actions counter to good order and discipline and negatively affect Command/ Organizational climate. - Demonstrates exclusionary behavior. Fails to value differences from cultural diversity.	-	- Positive leadership supports Navy's increased retention goals. Active in decreasing attrition. - Actions adequately encourage/support subordinates' personal/professional growth. - Demonstrates appreciation for contributions of Navy personnel. Positive influence on Command climate. - Values differences as strengths. Fosters atmosphere of acceptance/inclusion per EO/EEO policy. X	-	- Measurably contributes to Navy's increased retention and reduced attrition objectives. - Proactive leader/exemplary mentor. Involved in subordinates' personal development leading to professional growth/sustained commitment. - Initiates support programs for military, civilian, and families to achieve exceptional Command and Organizational climate. - The model of achievement. Develops unit cohesion by valuing differences as strengths.
NOB					
36. MILITARY BEARING/ CHARACTER: Appearance, conduct physical fitness, adherance to Navy Core Values.	- Consistently unsatisfactory appearance. - Poor self-control; conduct resulting in disciplinary action. - Unable to meet one or more physical readiness standards. - Fails to live up to one or more Navy Core Values: HONOR, COURAGE, COMMITMENT.	-	- Excellent personal appearance. - Excellent conduct conscientiously complies with regulations. - Complies with physical readiness program. - Always lives up to Navy Core Values: HONOR, COURAGE, COMMITMENT. X	-	- Exemplary personal appearance. - Model of conduct, on and off duty. - A leader in physical readiness. - Exemplifies Navy Core Values: HONOR, COURAGE, COMMITMENT.
NOB					
37. PERSONAL JOB ACCOMPLISHMENT/ INITIATIVE: Responsibility, quantity of work.	- Needs prodding to attain qualification or finish job. - Prioritizes poorly. - Avoids responsibility.	-	- Productive and motivated. Completes tasks and qualifications fully and on time. - Plans/prioritizes effectively. - Reliable, dependable, willingly accepts responsibility. X	-	- Energetic self-starter. Completes tasks or qualifications early, far better than expected. - Plans/prioritizes wisely and with exceptional foresight. - Seeks extra responsibility and takes on the hardest jobs.
NOB					

NAVPERS 1616/26 (03-02)

EVALUATION REPORT & COUNSELING RECORD (E1-E6) (cont 'd)

RCS BUPERS 1610-1

1. Name (Last, First MI Suffix)	2. Rate	3. Desig	4. SSN
HAMILTON, KYLE W	M3/C	032564	526-45-8107

PERFORMANCE TRAITS	1.0* Below Standards	2.0 Progressing	3.0 Meets Standards	4.0 Above Standards	5.0 Greatly Exceeds Standards
38. TEAMWORK: Contributions to team building and team results NOB ☐	- Creates conflict, unwilling to work with others, puts self above team. - Fails to understand team goals or teamwork techniques. - Does not take direction well.	-	- Reinforces others' efforts, meets commitments to team. - Understands goals, employs good teamwork techniques. - Accepts and offers team direction.	-	- Team builder, inspires cooperation and progress. - Focuses goals and techniques for teams - The best at accepting and offering team direction.
	☐	☐	☒	☐	☐
39. LEADERSHIP: Organizing, motivating and developing others to accomplish goals. NOB ☐	- Neglects growth/development or welfare of subordinates. - Fails to organize, creates problems for subordinates. - Does not set or achieve goals relevant to command mission and vision. - Lacks ability to cope with or tolerate stress. - Inadequate communicator. - Tolerates hazards or unsafe practices	-	- Effectively stimulates growth/development in subordinates. - Organizes successfully, implementing process improvements and efficiencies. - Sets/achieves useful, realistic goals that support command mission. - Performs well in stressful situations - Clear, timely communicator. - Ensures safety of personnel and equipment.	-	- Inspiring motivator and trainer, subordinates reach highest level of growth and development. - Superb organizer, great foresight, develops process improvements and efficiencies. - Leadership achievements dramatically further command mission and vision. - Perseveres through the toughest challenges and inspires others. - Exceptional communicator. - Makes subordinates safety-conscious, maintains top safety record. - Constantly improves the personal and and professional lives of others.
	☐	☐	☒	☐	☐

40. Individual Trait Avg. total of trait scores divided by number of graded traits.	41. I recommend this individual for (maximum of two): Assignment in Rating, Sea Special Programs, Shore Special Programs, Commissioning Programs, Special Warfare Programs, Rating Instructor Duty, Other. (Be specific)	42. Signature of Rater (Typed Name & Rate): I have evaluated this member against the above performance standards and have forwarded written explanation of marks 1.0 and 5.0.
3.00	SQD LDR	Date:

43. COMMENTS ON PERFORMANCE: * All 1.0 marks, three 2.0 marks, and 2.0 marks in Block 35 must be specifically substantiated in comments. Comments must be verifiable. Font must be 10 or 12 Pitch (10 or 12 point) only. Use upper and lower case.

- Completes his duties as a 3/C efficiently, and has above average room and uniform standards.

- Is a consistent performer in the squad and works hard to develop the 4/C.

- Conducts regular come-arounds and is available when the 4/C need additional guidance.

- Is carrying a 2.77 GPA and received a "B" on the most recent PRT.

- Has tremendous potential to serve as a leader and a role model to both his classmates and his subordinates, but he needs to become more involved.

- Member of the Cycling Club and Protestant Midshipman Club.

44. QUALIFICATIONS/ACHIEVEMENTS - Education, awards, community involvement, etc., during this period.

Promotion Recommendation	NOB	Significant Problems	Progressing	Promotable	Must Promote	Early Promote	47. Retention: Not Recommended ☐ Recommended ☐
45. INDIVIDUAL				X			48. Reporting Senior Address 21ST COMPANY USNA ANNAPOLIS, MD 21402
46. SUMMARY	☒	0	2	12	14	8	

49. Signature of Senior Rater (Typed Name & Grade/Rate): I have reviewed the evaluation of this member against these performance standards and have provided written explanation to support the marks of 1.0 and 5.0.	50. Signature of Reporting Senior
Date:	K.M. Howard Summary Group Average: Date: 18 DEC 00

51. Signature of Individual Evaluated. "I have seen this report, been apprised of my performance, and understand my right to submit a statement."	52. Type name, grade,command, UIC, and signature of Regular Reporting Senior on Concurrent Report
I intend to submit a statement. ☐ I do not intend to submit a statement. ☒	
Kyle Hamilton Date: 18 DEC 00	Date:

NAVPERS 1616/26 (03-02)

MIDSHIPMAN ASSESSMENT QUESTIONNAIRE

Primary Study

Rate Midshipman 3/C Hamilton in the 6 categories below.

1. Concern with success at the Naval Academy

Very Low ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ 9 Very High

2. Effectiveness as a 3/C midshipman

Very Low ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ 9 Very High

3. Friendliness

Very Low ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ 9 Very High

4. Sociability

Very Low ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ 9 Very High

5. Attractiveness

Very Low ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ 9 Very High

6. Leadership Potential:
"I would assign this midshipman to the following leadership rank:"

○ MIR ○ M/ENS ○ M/LTJG ○ M/LT ○ M/LCDR ○ M/CDR ○ M/CAPT

MIDSHIPMAN ASSESSMENT QUESTIONNAIRE

Primary Study

Rate Midshipman 3/C Taylor in the 6 categories below.

1. Concern with success at the Naval Academy

Very Low ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ 9 Very High

2. Effectiveness as a 3/C midshipman

Very Low ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ 9 Very High

3. Friendliness

Very Low ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ 9 Very High

4. Sociability

Very Low ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ 9 Very High

5. Attractiveness

Very Low ○ 1 ○ 2 ○ 3 ○ 4 ○ 5 ○ 6 ○ 7 ○ 8 ○ 9 Very High

6. Leadership Potential:
"I would assign this midshipman to the following leadership rank:"

○ MIR ○ M/ENS ○ M/LTJG ○ M/LT ○ M/LCDR ○ M/CDR ○ M/CAPT

APPENDIX C: PRIMARY STUDY DATA RESULTS

Table C-1. Estimated Marginal Means for the Primary Study Ratings of Target Midshipmen on the Professional Knowledge Trait

Target Sex	Mean	Std. Error	Lower Bound	Upper Bound
Male	3.569	.064	3.478	3.695
Female	3.481	.064	3.355	3.607
Target Attractiveness	Mean	Std. Error	Lower Bound	Upper Bound
Attractive	3.606	.065	3.478	3.734
Unattractive	3.444	.062	3.322	3.567
Target Sex + Attractiveness	Mean	Std. Error	Lower Bound	Upper Bound
Attractive Male	3.667	.092	3.485	3.848
Unattractive Male	3.472	.088	3.298	3.646
Attractive Female	3.545	.092	3.364	3.727
Unattractive Female	3.417	.088	3.243	3.590

Table C-2. Estimated Marginal Means for the Primary Study Ratings of Target Midshipmen on the Quality of Work Trait

Target Sex	Mean	Std. Error	Lower Bound	Upper Bound
Male	3.317	.067	3.184	3.450
Female	3.428	.067	3.295	3.561
Target Attractiveness	Mean	Std. Error	Lower Bound	Upper Bound
Attractive	3.439	.068	3.304	3.575
Unattractive	3.306	.068	3.176	3.435
Target Sex + Attractiveness	Mean	Std. Error	Lower Bound	Upper Bound
Attractive Male	3.273	.097	3.081	3.464
Unattractive Male	3.361	.093	3.178	3.545
Attractive Female	3.606	.097	3.415	3.798
Unattractive Female	3.250	.093	3.067	3.433

Table C-3. Estimated Marginal Means for the Primary Study Ratings of Target Midshipmen on the Command Climate / Equal Opportunity Trait

Target Sex	Mean	Std. Error	Lower Bound	Upper Bound
Male	3.287	.072	3.145	3.428
Female	3.444	.072	3.303	3.586

Target Attractiveness	Mean	Std. Error	Lower Bound	Upper Bound
Attractive	3.439	.073	3.295	3.584
Unattractive	3.292	.070	3.153	3.430

Target Sex + Attractiveness	Mean	Std. Error	Lower Bound	Upper Bound
Attractive Male	3.212	.104	3.007	3.417
Unattractive Male	3.361	.099	3.165	3.557
Attractive Female	3.667	.104	3.462	3.871
Unattractive Female	3.222	.099	3.026	3.418

Table C-4. Estimated Marginal Means for the Primary Study Ratings of Target Midshipmen on the Military Bearing Trait

Target Sex	Mean	Std. Error	Lower Bound	Upper Bound
Male	3.683	.071	3.542	3.824
Female	3.585	.071	3.444	3.725

Target Attractiveness	Mean	Std. Error	Lower Bound	Upper Bound
Attractive	3.712	.073	3.568	3.856
Unattractive	3.556	.070	3.418	3.693

Target Sex + Attractiveness	Mean	Std. Error	Lower Bound	Upper Bound
Attractive Male	3.727	.103	3.524	3.931
Unattractive Male	3.639	.098	3.444	3.834
Attractive Female	3.697	.103	3.494	3.900
Unattractive Female	3.472	.098	3.277	3.667

Table C-5. Estimated Marginal Means for the Primary Study Ratings of Target Midshipmen on the Job Accomplishment / Initiative Trait

Target Sex	Mean	Std. Error	Lower Bound	Upper Bound
Male	3.220	.059	3.102	3.337
Female	3.295	.059	3.178	3.413
Target Attractiveness	Mean	Std. Error	Lower Bound	Upper Bound
Attractive	3.348	.061	3.228	3.469
Unattractive	3.167	.058	3.052	3.282
Target Sex + Attractiveness	Mean	Std. Error	Lower Bound	Upper Bound
Attractive Male	3.273	.086	3.103	3.443
Unattractive Male	3.167	.082	3.004	3.329
Attractive Female	3.424	.086	3.254	3.594
Unattractive Female	3.167	.082	3.004	3.329

Table C-6. Estimated Marginal Means for the Primary Study Ratings of Target Midshipmen on the Teamwork Trait

Target Sex	Mean	Std. Error	Lower Bound	Upper Bound
Male	3.538	.070	3.399	3.677
Female	3.475	.706	3.335	3.614
Target Attractiveness	Mean	Std. Error	Lower Bound	Upper Bound
Attractive	3.485	.072	3.342	3.627
Unattractive	3.528	.069	3.391	3.664
Target Sex + Attractiveness	Mean	Std. Error	Lower Bound	Upper Bound
Attractive Male	3.576	.102	3.374	3.777
Unattractive Male	3.500	.097	3.307	3.693
Attractive Female	3.394	.102	3.193	3.595
Unattractive Female	3.556	.097	3.363	3.748

Table C-7. Estimated Marginal Means for the Primary Study Ratings of Target Midshipmen on the Leadership Trait

Target Sex	Mean	Std. Error	Lower Bound	Upper Bound
Male	3.264	.075	3.116	3.411
Female	3.191	.075	3.043	3.338
Target Attractiveness	Mean	Std. Error	Lower Bound	Upper Bound
Attractive	3.288	.076	3.137	3.439
Unattractive	3.167	.073	3.022	3.311
Target Sex + Attractiveness	Mean	Std. Error	Lower Bound	Upper Bound
Attractive Male	3.333	.108	3.120	3.546
Unattractive Male	3.194	.103	3.990	3.398
Attractive Female	3.242	.108	3.029	3.456
Unattractive Female	3.139	.103	3.935	3.343

Table C-8. Estimated Marginal Means for the Primary Study Ratings of Target Midshipmen on the Trait Average

Target Sex	Mean	Std. Error	Lower Bound	Upper Bound
Male	3.411	.036	3.340	3.482
Female	3.414	.036	3.343	3.485
Target Attractiveness	Mean	Std. Error	Lower Bound	Upper Bound
Attractive	3.474	.037	3.401	3.547
Unattractive	3.351	.035	3.281	3.421
Target Sex + Attractiveness	Mean	Std. Error	Lower Bound	Upper Bound
Attractive Male	3.437	.052	3.334	3.540
Unattractive Male	3.385	.050	3.286	3.484
Attractive Female	3.511	.052	3.408	3.614
Unattractive Female	3.317	.050	3.219	3.416

Table C-9. Bivariate Correlations between Primary Study Performance Evaluation Trait Scores and Questionnaire Perception Factor Indices

Trait / Variable	1	2	3	4	5	6	7	8	9 [a]	10	11	12
1. Professional Knowledge	---											
2. Quality of Work	.107	---										
3. Command Climate / Equal Opportunity	.155	.408**	---									
4. Military Bearing	.107	.062	.050	---								
5. Job Accomplishment / Initiative	.214**	.259**	.150	.122	---							
6. Teamwork	.106	.135	.074	.230**	.182*	---						
7. Leadership	.108	.137	.226**	.229**	.169*	.189*	---					
8. Trait Average	.462**	.565**	.571**	.493**	.533**	.518**	.573**	---				
9. Recommended Rank [a]	.199	.380**	.206	.472**	.296**	.230*	.348**	.598**	---			
10. Ability	.108	.080	.247**	.376**	.227**	.234**	.264**	.418**	.407**	---		
11. Social Evaluation	.121	.185*	.285**	.270**	.281**	.252**	.386**	.483**	.245*	.468**	---	
12. Attractiveness	.146	.151	.201*	.317**	.233**	.073	.211*	.359**	.287**	.159	.519**	---

Notes: N = 138; [a] = N = 89; * = p < .05; ** = p < .01

THIS PAGE INTENTIONALLY LEFT BLANK

LIST OF REFERENCES

Bardack, N. R., & McAndrew, F. T. (1985). The Influence of Physical Attractiveness and Manner of Dress on Success in a Simulated Personnel Decision. Journal of Social Psychology, *125*(6), 777-778.

Biernat, M., & Fuegen, K. (2001). Shifting Standards and the Evaluation of Competence: Complexity in Gender-Based Judgment and Decision Making. Journal of Social Issues, *57,* 707-724.

Brown, T. A., Cash, T. F., & Noles, S. W. (1986). Perceptions of Physical Attractiveness Among College Students: Selected Determinants and Methodological Matters. The Journal of Social Psychology, *126*(3), 305-316.

Chung, P., & Leung, K. (1988). Effects of Performance Information and Physical Attractiveness on Managerial Decisions About Promotion. The Journal of Social Psychology, *128*(6), 791-801.

Coppola, M. N., & Patel, U. B. (2003). An Analysis of the Department of the Army Photograph and the Impact on Army Promotion Board Scores. Military Psychology, *15*(2), 153-162.

Drogosz, L. M., & Levy, P. E. (1996). Another Look at the Effect of Appearance, Gender, and Job Type on Performance-based Decisions. Psychology of Women Quarterly, *20,* 437-445.

Fink, B. & Penton-Voak, I. (2002). Evolutionary Psychology of Facial Attractiveness. Psychological Science, *11(5)*, 154-158.

Harrison, A. W. & Rainer Jr., R. K. (1997). Gender Differences in Computing Activities. Journal of Social Behavior & Personality, *12(4).* **Retrieved July 2, 2003, from the EBSCO Host Research Database.**

Hartman, S. J., Griffeth, R. W., Miller, L., & Kinicki, A. J. (1988). The Impact of Occupation, Performance, and Sex on Sex Role Stereotyping. The Journal of Social Psychology, *128*(4), 451-463.

Hollingsworth, D. K. (1985). The Counselor and Physical Attractiveness: A Response. Journal of Counseling and Development, *63*, 488-489.

Jackson, L. A., Hunter, J. E., & Hodge, C. N. (1995). Physical Attractiveness and Intellectual Competence: A Meta-Analytic Review. Social Psychology Quarterly, *58*(2), 108-122.

Kowner, R. (1995). The Effect of Physical Attractiveness Comparison on Choice of Partners. The Journal of Social Psychology, *135*(2), 153-165.

Mazur, A., Mazur, J., & Keating, C. (1984). Military Rank Attainment of a West Point Class: Effects of Cadets' Physical Features. *The American Journal of Sociology*, *90(1)*, 125-150.

Mulford, M., Orbell, J., Shatto, C., & Stockard, J. (1998). Physical Attractiveness, Opportunity, and Success in Everyday Exchange. American Journal of Sociology, *103*(6), 1565-1592.

Ponzo, Z. (1985a). The Counselor and Physical Attractiveness. Journal of Counseling and Development, *63*, 482-485.

Ponzo, Z. (1985b). A Rejoinder to Claiborn and Hollingsworth. Journal of Counseling and Development, *63*, 490.

Pretty Women Scramble Men's Ability to Assess the Future. (2003, December 10). **Retrieved March 16, 2004 from http://www.newscientist.com/news/.**

Stewart III, J. E. (1985). Appearance and Punishment: The Attraction-Leniency Effect in the Courtroom. The Journal of Social Psychology, *125*(3), 373-378.

United States General Accounting Office (1993). Naval Academy Gender and Racial Disparities. Washington, D.C.

United States Naval Academy, Commandant of Midshipmen (2003). Midshipman Aptitude Evaluation and Counseling System. Annapolis, MD: COMDTMIDNINST 1610.3B.

United States Naval Academy, Commandant of Midshipmen (2002). Waypoints. Annapolis, MD: Public Affairs Office.

Waesche, M. (2002). The Equity of Punishment in the Naval Academy Conduct System: A Statistical Analysis. Monterey, CA: Naval Postgraduate School.

Waesche, M. (Ed.). (2004). Leadership Theory and Application (6th ed.). Boston, MA: Pearson Custom Publishing.

Wieczorek, S. C. & Cesari, G. (Eds.). (2003). Leadership and Human Behavior (5th ed.). Boston, MA: Pearson Custom Publishing.

Wiederman, M. W., & Hurst, S. R. (1997). Physical Attractiveness, Body Image, and Women's Sexual Self-Schema. Psychology of Women Quarterly, *21*, 567-580.

INITIAL DISTRIBUTION LIST

1. Defense Technical Information Center
   Ft. Belvior, VA

2. Dudley Knox Library
   Naval Postgraduate School
   Monterey, CA

3. Nimitz Library
   U.S. Naval Academy
   Annapolis, MD

4. Superintendent
   U.S. Naval Academy
   Annapolis, MD

5. Leadership, Ethics and Law Department
   U.S. Naval Academy
   Annapolis, MD

6. Janice H. Laurence, Ph. D.
   Human Capital Research & Strategies
   Annandale, VA

7. Armando X. Estrada, Ph. D.
   Naval Postgraduate School
   NDU-ICAF
   Washington, DC

8. CDR Robert Proano
   U.S. Naval Academy
   Annapolis, MD

9. LT Mario N. Wilson
   Grasonville, MD